



# STIC Search Report

EIC 1700

STIC Database Tracking Number: 114505

**TO:** Katarzyna Wyrozebski Lee  
**Location:** REM 10C19  
**Art Unit :** 1714  
**February 20, 2004**

**Case Serial Number:** 09/973302

**From:** Kathleen Fuller  
**Location:** EIC 1700  
**REMSEN 4B28**  
**Phone:** 571/272-2505  
**Kathleen.Fuller@uspto.gov**

## Search Notes

=> file hcaplus  
FILE 'HCAPLUS' ENTERED AT 11:20:41 ON 20 FEB 2004  
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FILE COVERS 1907 - 20 Feb 2004 VOL 140 ISS 8  
FILE LAST UPDATED: 18 Feb 2004 (20040218/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que 122  
L2 6 SEA FILE=REGISTRY ABB=ON (12173-47-6/BI OR 1318-93-0/BI OR  
1319-41-1/BI OR 14807-96-6/BI OR 25322-68-3/BI OR 25322-69-4/BI  
)  
L3 2 SEA FILE=REGISTRY ABB=ON 25322-68-3 OR 25322-69-4  
L5 4 SEA FILE=REGISTRY ABB=ON L2 NOT L3  
L6 1 SEA FILE=REGISTRY ABB=ON PHYLLOSILICATE  
L7 5 SEA FILE=REGISTRY ABB=ON L5 OR L6  
L8 408959 SEA FILE=HCAPLUS ABB=ON L7 OR PHYLLOSILICATE? OR SILICATE? OR  
KAOLIN? OR TALC# OR MONTMORILLONITE? OR CLAY# OR HECTORITE? OR  
SAPONITE?  
L9 1 SEA FILE=REGISTRY ABB=ON HYDROGEN/CN  
L10 282785 SEA FILE=HCAPLUS ABB=ON L9  
L11 13433 SEA FILE=HCAPLUS ABB=ON ( ( L10 OR HYDROGEN/BI) OR H2) AND L8  
L12 146285 SEA FILE=HCAPLUS ABB=ON L3 OR PEG OR PPG OR (POLYETHYLENE OR  
POLYPROPYLENE) (W) GLYCOL#  
L13 289 SEA FILE=HCAPLUS ABB=ON L11 AND L12  
L14 8 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) ION# AND L13  
L15 2 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) (BIND? OR BOUND?) AND L13  
L16 0 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) CATION? AND L13  
L17 2234 SEA FILE=HCAPLUS ABB=ON L11 AND (OH OR HYDROXY? OR OXONIUM)  
L18 218 SEA FILE=HCAPLUS ABB=ON L17 AND HYDROGEN(2A) (ION# OR CATION#  
OR BIND? OR BOUND?)  
L21 19 SEA FILE=HCAPLUS ABB=ON L18 AND (POLYMER? OR PLASTIC? OR  
FILM# OR LIG?(2A)CRYST?)/SC, SX, AB, BI  
L22 25 SEA FILE=HCAPLUS ABB=ON (L14 OR L15 OR L16) OR L21

=> file wpix  
FILE 'WPIX' ENTERED AT 11:20:52 ON 20 FEB 2004  
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FILE LAST UPDATED: 18 FEB 2004 <20040218/UP>  
 MOST RECENT DERWENT UPDATE: 200412 <200412/DW>  
 DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> NEW WEEKLY SDI FREQUENCY AVAILABLE --> see NEWS <<<

>>> SLART (Simultaneous Left and Right Truncation) is now available in the /ABEX field. An additional search field /BIX is also provided which comprises both /BI and /ABEX <<<

>>> PATENT IMAGES AVAILABLE FOR PRINT AND DISPLAY <<<

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE, PLEASE VISIT:

[<<<](http://www.stn-international.de/training_center/patents/stn_guide.pdf)

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE <http://thomsonderwent.com/coverage/latestupdates/> <<<

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER GUIDES, PLEASE VISIT:

<http://thomsonderwent.com/support/userguides/> <<<

>>> ADDITIONAL POLYMER INDEXING CODES WILL BE IMPLEMENTED FROM DERWENT UPDATE 200403.

THE TIME RANGE CODE WILL ALSO CHANGE FROM 018 TO 2004.

SDIS USING THE TIME RANGE CODE WILL NEED TO BE UPDATED.

FOR FURTHER DETAILS: <http://thomsonderwent.com/chem/polymers/> <<<

=> d que 123

L2	6 SEA FILE=REGISTRY ABB=ON (12173-47-6/BI OR 1318-93-0/BI OR 1319-41-1/BI OR 14807-96-6/BI OR 25322-68-3/BI OR 25322-69-4/BI ) .
L3	2 SEA FILE=REGISTRY ABB=ON 25322-68-3 OR 25322-69-4
L5	4 SEA FILE=REGISTRY ABB=ON L2 NOT L3
L6	1 SEA FILE=REGISTRY ABB=ON PHYLLOSILICATE
L7	5 SEA FILE=REGISTRY ABB=ON L5 OR L6
L8	408959 SEA FILE=HCAPLUS ABB=ON L7 OR PHYLLOSILICATE? OR SILICATE? OR KAOLIN? OR TALC# OR MONTMORILLONITE? OR CLAY# OR HECTORITE? OR SAPONITE?
L9	1 SEA FILE=REGISTRY ABB=ON HYDROGEN/CN
L10	282785 SEA FILE=HCAPLUS ABB=ON L9
L11	13433 SEA FILE=HCAPLUS ABB=ON ( ( L10 OR HYDROGEN/BI) OR H2) AND L8
L12	146285 SEA FILE=HCAPLUS ABB=ON L3 OR PEG OR PPG OR (POLYETHYLENE OR POLYPROPYLENE) (W) GLYCOL#
L13	289 SEA FILE=HCAPLUS ABB=ON L11 AND L12
L14	8 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) ION# AND L13
L15	2 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) (BIND? OR BOUND?) AND L13
L16	0 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) CATION? AND L13
L17	2234 SEA FILE=HCAPLUS ABB=ON L11 AND (OH OR HYDROXY? OR OXONIUM)
L18	218 SEA FILE=HCAPLUS ABB=ON L17 AND HYDROGEN(2A) (ION# OR CATION# OR BIND? OR BOUND?)
L21	19 SEA FILE=HCAPLUS ABB=ON L18 AND (POLYMER? OR PLASTIC? OR FILM# OR LIG?(2A)CRYST?)/SC, SX, AB, BI

L23 21 SEA FILE=WPIX ABB=ON (L14 OR L15 OR L16) OR L21

=> file rapra  
 FILE 'RAPRA' ENTERED AT 11:21:08 ON 20 FEB 2004  
 COPYRIGHT (C) 2004 RAPRA Technology Ltd.

FILE LAST UPDATED: 16 FEB 2004 <20040216/UP>  
 FILE COVERS 1972 TO DATE

>>> Simultaneous left and right truncation is available in the  
 basic index (/BI), and in the controlled term (/CT),  
 geographical term (/GT), and non-polymer term (/NPT) fields. <<<

>>> New search field /AB is available <<<

>>> The RAPRA Classification Code is available as a PDF file  
 >>> and may be downloaded free-of-charge from:  
 >>> [http://www.stn-international.de/stndatabases/details/rapra\\_classcodes.pdf](http://www.stn-international.de/stndatabases/details/rapra_classcodes.pdf)

=> d que 125

L2	6 SEA FILE=REGISTRY ABB=ON (12173-47-6/BI OR 1318-93-0/BI OR 1319-41-1/BI OR 14807-96-6/BI OR 25322-68-3/BI OR 25322-69-4/BI )
L3	2 SEA FILE=REGISTRY ABB=ON 25322-68-3 OR 25322-69-4
L5	4 SEA FILE=REGISTRY ABB=ON L2 NOT L3
L6	1 SEA FILE=REGISTRY ABB=ON PHYLLOSILICATE
L7	5 SEA FILE=REGISTRY ABB=ON L5 OR L6
L8	408959 SEA FILE=HCAPLUS ABB=ON L7 OR PHYLLOSILICATE? OR SILICATE? OR KAOLIN? OR TALC# OR MONTMORILLONITE? OR CLAY# OR HECTORITE? OR SAPONITE?
L9	1 SEA FILE=REGISTRY ABB=ON HYDROGEN/CN
L10	282785 SEA FILE=HCAPLUS ABB=ON L9
L11	13433 SEA FILE=HCAPLUS ABB=ON ( ( L10 OR HYDROGEN/BI) OR H2) AND L8
L12	146285 SEA FILE=HCAPLUS ABB=ON L3 OR PEG OR PPG OR (POLYETHYLENE OR POLYPROPYLENE) (W) GLYCOL#
L13	289 SEA FILE=HCAPLUS ABB=ON L11 AND L12
L14	8 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) ION# AND L13
L15	2 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) (BIND? OR BOUND?) AND L13
L16	0 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) CATION? AND L13
L17	2234 SEA FILE=HCAPLUS ABB=ON L11 AND (OH OR HYDROXY? OR OXONIUM)
L18	218 SEA FILE=HCAPLUS ABB=ON L17 AND HYDROGEN(2A) (ION# OR CATION# OR BIND? OR BOUND?)
L21	19 SEA FILE=HCAPLUS ABB=ON L18 AND (POLYMER? OR PLASTIC? OR FILM# OR LIG?(2A)CRYST?)/SC, SX, AB, BI
L25	0 SEA FILE=RAPRA ABB=ON (L14 OR L15 OR L16) OR L21

=> file compen

FILE 'COMPENDEX' ENTERED AT 11:21:20 ON 20 FEB 2004  
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FILE LAST UPDATED: 16 FEB 2004 <20040216/UP>  
 FILE COVERS 1970 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN  
THE BASIC INDEX >>>

=> d que 126

L2 6 SEA FILE=REGISTRY ABB=ON (12173-47-6/BI OR 1318-93-0/BI OR  
1319-41-1/BI OR 14807-96-6/BI OR 25322-68-3/BI OR 25322-69-4/BI  
)

L3 2 SEA FILE=REGISTRY ABB=ON 25322-68-3 OR 25322-69-4

L5 4 SEA FILE=REGISTRY ABB=ON L2 NOT L3

L6 1 SEA FILE=REGISTRY ABB=ON PHYLLOSILICATE

L7 5 SEA FILE=REGISTRY ABB=ON L5 OR L6

L8 408959 SEA FILE=HCAPLUS ABB=ON L7 OR PHYLLOSILICATE? OR SILICATE? OR  
KAOLIN? OR TALC# OR MONTMORILLONITE? OR CLAY# OR HECTORITE? OR  
SAPONITE?

L9 1 SEA FILE=REGISTRY ABB=ON HYDROGEN/CN

L10 282785 SEA FILE=HCAPLUS ABB=ON L9

L11 13433 SEA FILE=HCAPLUS ABB=ON ( ( L10 OR HYDROGEN/BI) OR H2) AND L8

L12 146285 SEA FILE=HCAPLUS ABB=ON L3 OR PEG OR PPG OR (POLYETHYLENE OR  
POLYPROPYLENE) (W) GLYCOL#

L13 289 SEA FILE=HCAPLUS ABB=ON L11 AND L12

L14 8 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) ION# AND L13

L15 2 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) (BIND? OR BOUND?) AND L13

L16 0 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) CATION? AND L13

L17 2234 SEA FILE=HCAPLUS ABB=ON L11 AND (OH OR HYDROXY? OR OXONIUM)

L18 218 SEA FILE=HCAPLUS ABB=ON L17 AND HYDROGEN(2A) (ION# OR CATION#  
OR BIND? OR BOUND?)

L21 19 SEA FILE=HCAPLUS ABB=ON L18 AND (POLYMER? OR PLASTIC? OR  
FILM# OR LIG?(2A)CRYST?)/SC, SX, AB, BI

L26 1 SEA FILE=COMPENDEX ABB=ON (L14 OR L15 OR L16) OR L21

=> file jicst

FILE 'JICST-EPLUS' ENTERED AT 11:21:30 ON 20 FEB 2004  
COPYRIGHT (C) 2004 Japan Science and Technology Agency (JST)

FILE COVERS 1985 TO 16 FEB 2004 (20040216/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED  
TERM (/CT) THESAURUS RELOAD.

=> d que 127

L2 6 SEA FILE=REGISTRY ABB=ON (12173-47-6/BI OR 1318-93-0/BI OR  
1319-41-1/BI OR 14807-96-6/BI OR 25322-68-3/BI OR 25322-69-4/BI  
)

L3 2 SEA FILE=REGISTRY ABB=ON 25322-68-3 OR 25322-69-4

L5 4 SEA FILE=REGISTRY ABB=ON L2 NOT L3

L6 1 SEA FILE=REGISTRY ABB=ON PHYLLOSILICATE

L7 5 SEA FILE=REGISTRY ABB=ON L5 OR L6

L8 408959 SEA FILE=HCAPLUS ABB=ON L7 OR PHYLLOSILICATE? OR SILICATE? OR  
KAOLIN? OR TALC# OR MONTMORILLONITE? OR CLAY# OR HECTORITE? OR  
SAPONITE?

L9 1 SEA FILE=REGISTRY ABB=ON HYDROGEN/CN

L10 282785 SEA FILE=HCAPLUS ABB=ON L9

L11 13433 SEA FILE=HCAPLUS ABB=ON ( ( L10 OR HYDROGEN/BI) OR H2) AND L8

L12 146285 SEA FILE=HCAPLUS ABB=ON L3 OR PEG OR PPG OR (POLYETHYLENE OR  
POLYPROPYLENE) (W) GLYCOL#  
L13 289 SEA FILE=HCAPLUS ABB=ON L11 AND L12  
L14 8 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) ION# AND L13  
L15 2 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) (BIND? OR BOUND?) AND L13  
  
L16 0 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) CATION? AND L13  
L17 2234 SEA FILE=HCAPLUS ABB=ON L11 AND (OH OR HYDROXY? OR OXONIUM)  
L18 218 SEA FILE=HCAPLUS ABB=ON L17 AND HYDROGEN(2A) (ION# OR CATION#  
OR BIND? OR BOUND?)  
L21 19 SEA FILE=HCAPLUS ABB=ON L18 AND (POLYMER? OR PLASTIC? OR  
FILM# OR LIG?(2A)CRYST?)/SC,SX,AB,BI  
L27 8 SEA FILE=JICST-EPLUS ABB=ON (L14 OR L15 OR L16) OR L21

=> file japiro  
FILE 'JAPIO' ENTERED AT 11:21:41 ON 20 FEB 2004  
COPYRIGHT (C) 2004 Japanese Patent Office (JPO) - JAPIO

FILE LAST UPDATED: 3 FEB 2004 <20040203/UP>  
FILE COVERS APR 1973 TO OCTOBER 31, 2003

<<< GRAPHIC IMAGES AVAILABLE >>>

=> d que 128  
L2 6 SEA FILE=REGISTRY ABB=ON (12173-47-6/BI OR 1318-93-0/BI OR  
1319-41-1/BI OR 14807-96-6/BI OR 25322-68-3/BI OR 25322-69-4/BI  
)  
L3 2 SEA FILE=REGISTRY ABB=ON 25322-68-3 OR 25322-69-4  
L5 4 SEA FILE=REGISTRY ABB=ON L2 NOT L3  
L6 1 SEA FILE=REGISTRY ABB=ON PHYLLOSILICATE  
L7 5 SEA FILE=REGISTRY ABB=ON L5 OR L6  
L8 408959 SEA FILE=HCAPLUS ABB=ON L7 OR PHYLLOSILICATE? OR SILICATE? OR  
KAOLIN? OR TALC# OR MONTMORILLONITE? OR CLAY# OR HECTORITE? OR  
SAPONITE?  
L9 1 SEA FILE=REGISTRY ABB=ON HYDROGEN/CN  
L10 282785 SEA FILE=HCAPLUS ABB=ON L9  
L11 13433 SEA FILE=HCAPLUS ABB=ON ( ( L10 OR HYDROGEN/BI) OR H2) AND L8  
  
L12 146285 SEA FILE=HCAPLUS ABB=ON L3 OR PEG OR PPG OR (POLYETHYLENE OR  
POLYPROPYLENE) (W) GLYCOL#  
L13 289 SEA FILE=HCAPLUS ABB=ON L11 AND L12  
L14 8 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) ION# AND L13  
L15 2 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) (BIND? OR BOUND?) AND L13  
  
L16 0 SEA FILE=HCAPLUS ABB=ON HYDROGEN(2A) CATION? AND L13  
L17 2234 SEA FILE=HCAPLUS ABB=ON L11 AND (OH OR HYDROXY? OR OXONIUM)  
L18 218 SEA FILE=HCAPLUS ABB=ON L17 AND HYDROGEN(2A) (ION# OR CATION#  
OR BIND? OR BOUND?)  
L21 19 SEA FILE=HCAPLUS ABB=ON L18 AND (POLYMER? OR PLASTIC? OR  
FILM# OR LIG?(2A)CRYST?)/SC,SX,AB,BI  
L28 0 SEA FILE=JAPIO ABB=ON (L14 OR L15 OR L16) OR L21

=> dup rem 122 123 125 126 127 128

L25 HAS NO ANSWERS

L28 HAS NO ANSWERS

FILE 'HCAPLUS' ENTERED AT 11:22:09 ON 20 FEB 2004

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FILE 'JICST-EPLUS' ENTERED AT 11:22:09 ON 20 FEB 2004  
 COPYRIGHT (C) 2004 Japan Science and Technology Agency (JST)  
 PROCESSING COMPLETED FOR L22  
 PROCESSING COMPLETED FOR L23  
 PROCESSING COMPLETED FOR L25  
 PROCESSING COMPLETED FOR L26  
 PROCESSING COMPLETED FOR L27  
 PROCESSING COMPLETED FOR L28  
 L29 54 DUP REM L22 L23 L25 L26 L27 L28 (1 DUPLICATE REMOVED)

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=> d 129 all 1-54

L29 ANSWER 1 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 2003-312753 [30] WPIX  
 DNN N2003-249059 DNC C2003-081940  
 TI Polishing slurry composition for semiconductor or electroluminescent device, contains specified weight of silica-coated ceria powder dispersed in aqueous medium.  
 DC A97 G04 P61 U11 U14  
 IN CHO, Y J; KIM, G J; KIM, S T; LEE, I Y; PARK, S G; KIM, K J; PARK, S K  
 PA (SMSU) SAMSUNG CORNING CO LTD  
 CYC 101  
 PI WO 2003016424 A1 20030227 (200330)\* EN 23p C09K003-14  
 RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU  
 MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW  
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK  
 DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KZ  
 LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO  
 RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM  
 ZW  
 KR 2003017352 A 20030303 (200344) C09K003-14  
 ADT WO 2003016424 A1 WO 2002-KR1568 20020820; KR 2003017352 A KR 2002-49170  
 20020820  
 PRAI KR 2001-76082 20011204; KR 2001-49925 20010820  
 IC ICM C09K003-14  
 AB WO2003016424 A UPAB: 20030513  
 NOVELTY - A polishing slurry composition comprises 0.5-5 weight% silica-coated ceria powder dispersed in an aqueous medium.  
 USE - For polishing a surface of a thin **film** layer of a semiconductor or electroluminescent device by using the inventive polishing slurry composition (claimed).  
 ADVANTAGE - The inventive composition has excellent performance characteristics in polishing the surfaces of various **film** layers, particularly in the semiconductor and electroluminescent device fields. The non-agglomerating ceria particles used in the inventive composition have good dispersibility and storage stability in an aqueous

slurry form.

DESCRIPTION OF DRAWING(S) - The figure is a field emission-scanning electron microscope photograph of an indium-tin oxide layer polished with an inventive polishing slurry composition.

Dwg.3a/4

FS CPI EPI GMPI

FA AB; GI

MC CPI: A04-F04; A12-A03; G04-B04

EPI: U11-A10; U11-C06A1A; U14-J01

L29 ANSWER 2 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-786896 [74] WPIX

DNN N2003-630598 DNC C2003-216906

TI Electrolytic reactor for oxidation of chlorite ions in aqueous solution, comprises anode, cathode and particulate catalyst material.

DC A85 E36 J03 L03 X25

IN DIMASCIO, F

PA (HALO-N) HALOX TECHNOLOGIES INC

CYC 100

PI US 2003082095 A1 20030501 (200374)\* 21p C25C007-00

WO 2003106736 A2 20031224 (200402) EN C25B000-00

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU  
MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK  
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR  
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT  
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

ADT US 2003082095 A1 Provisional US 2001-345307P 20011022, Provisional US  
2002-369090P 20020329, US 2002-65472 20021022; WO 2003106736 A2 WO  
2002-US33911 20021022

PRAI US 2002-65472 20021022; US 2001-345307P 20011022; US 2002-369090P  
20020329

IC ICM C25B000-00; C25C007-00

ICS C25B001-24; C25B009-00; C25D017-00

AB US2003082095 A UPAB: 20031117

NOVELTY - An electrolytic reactor (10) has an anode (12), cathode (14) and particulate materials (18, 24).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

(1) fabrication of ceramic catalyst material comprises dissolving a metal oxide precursor in solution, coating ceramic particle and heating the coated particle to form a metal oxide;

(2) generation of chlorine dioxide from alkali metal chloride solution comprises applying current to electrolytic reactor, flowing aqueous alkali metal chlorite solution into reactor and contacting the alkali metal chlorite solution with catalyst material to produce an effluent containing chlorine dioxide; and

(3) catalyst material that comprises a catalytic metal oxide, preferably of ruthenium, platinum, palladium, osmium, iridium or rhodium and/or oxide of titanium, lead, manganese, zirconium, niobium, tantalum, tungsten and/or tin, and support.

USE - For electrocatalytic oxidation of chlorite ions in aqueous solution to produce chlorine dioxide. The chlorine dioxide is used for controlling microbiological growth in dairy industry, beverage industry, pulp and paper industry, fruit and vegetable processing industry, poultry industry and beef processing industry, and for municipal portable and industrial waste treatment facilities.

ADVANTAGE - The electrolytic reactor has increased lifespan by using the cation exchange material having high cross-linking density. The method

efficiently produces chlorine dioxide with a maximum yield of 80 %, and generates chloride ions which are non-toxic and hazardous. The diffusion of chlorite ions from the central compartment to electrode compartments is minimized by using a non-permeable selective membrane.

DESCRIPTION OF DRAWING(S) - The figure shows a cross-sectional view of electrolytic reactor.

electrolytic reactor 10

anode 12

cathode 14

anode compartment 16

catalyst particulate materials 18,24

membrane 20

cathode compartment 22

Dwg.1/9

FS CPI EPI

FA AB; GI; DCN

MC CPI: A12-E09; E31-C; E35; J03-B; L03-J

EPI: X25-R01

L29 ANSWER 3 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-615989 [58] WPIX

CR 2000-587124 [55]; 2001-091750 [10]; 2001-475649 [51]; 2002-556413 [59];  
2003-678184 [64]

DNC C2003-168051

TI Formulation for multi-stage drug release, comprises drug having fraction of solid particles suspended in vehicle, and fraction solubilized in vehicle comprising hydrophilic-, lipophilic-surfactant and/or triglyceride.

DC A18 A25 A96 B07

IN CHEN, F; KRILL, S L; PATEL, M V; VENKATESHWARAN, S

PA (CHEN-I) CHEN F; (KRIL-I) KRILL S L; (PATE-I) PATEL M V; (VENK-I)  
VENKATESHWARAN S; (LIPO-N) LIPOCINE INC

CYC 102

PI US 2003077297 A1 20030424 (200358)\* 55p A61K009-00  
WO 2003068186 A1 20030821 (200365) EN A61K009-08

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS  
LU MC MW MZ NL OA PT SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK  
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR  
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT  
RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM  
ZW

ADT US 2003077297 A1 Cont of US 1999-258654 19990226, CIP of US 1999-345615  
19990630, Div ex US 1999-447690 19991123, CIP of US 2001-800593 20010306,  
CIP of US 2001-877541 20010608, CIP of US 2001-898553 20010702, US  
2002-74687 20020211; WO 2003068186 A1 WO 2003-US4195 20030211

FDT US 2003077297 A1 Div ex US 6248363, CIP of US 6267985, Cont of US 6294192

PRAI US 2002-74687 20020211; US 1999-258654 19990226; US 1999-345615  
19990630; US 1999-447690 19991123; US 2001-800593 20010306; US  
2001-877541 20010608; US 2001-898553 20010702

IC ICM A61K009-00; A61K009-08

AB US2003077297 A UPAB: 20031009

NOVELTY - A formulation comprises an active agent comprising 5-80 weight% (weight%) of fraction-I comprising solid particles, suspended in a vehicle and 20-95 weight% of fraction-II, solubilized in the vehicle. The vehicle comprises hydrophilic-, lipophilic-surfactant, triglyceride and/or solubilizer.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the

following:

- (1) dosage form comprising the formulation;
- (2) pharmaceutical system for administering active agent;
- (3) administration of active agent orally;
- (4) reducing interpatient variability of absorption or bio-availability of orally administered formulation;
- (5) reducing the effect of food on absorption and bio-availability of orally administered active agent; and
- (6) increasing the onset of a therapeutic effect and/or reducing the time to apparent elimination.

USE - For multi-stage drug release.

ADVANTAGE - The formulation enhance rate and extent of absorption, substantially increase the bioavailability of hydrophilic and hydrophobic active ingredients. Thereby the capability of administering drug using fewer dosage units previously possible without compromising pharmacokinetic/pharmacodynamic properties is enabled, interpatient variability is reduced, impact of food on drug absorption is reduced and variety of drug release profile (e.g. rapid onset coupled with rapid apparent elimination, rapid onset coupled with a longer duration of action) are provided.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic view of the formulation including both suspended and solubilized fractions (represented with shaded regions) of active agents in a single dosage form.

Dwg.1/11

FS CPI  
 FA AB; GI; DCN  
 MC CPI: A12-V01; B01-A01; B01-A02; B01-C03; B01-C04; B01-C05; B01-C06; B01-C08; B01-D01; B04-B01B; B04-B03A; B04-C02; B04-C02A; B04-C02B; B04-C02D; B04-C03; B04-C03A; B04-C03C; B04-N02; B05-A01B; B05-A03; B05-B02C; B05-C07; B07-A02B; B07-D01; B07-D04C; B07-D13; B10-C02; B10-C03; B10-E01; B10-F02; B10-G02; B11-C09; B12-M05; B12-M06; B12-M07; B12-M09; B12-M10; B12-M11; B14-A01; B14-A01B1; B14-A02; B14-A03; B14-A03B; B14-A04; B14-B03; B14-C01; B14-C02; B14-C03; B14-C04; B14-C07; B14-C08; B14-C09; B14-D03; B14-D05C; B14-E02; B14-E05; B14-E08; B14-E10; B14-E12; B14-F01; B14-F01A; B14-F01D; B14-F02B; B14-F04; B14-F06; B14-G02; B14-G02A; B14-H01; B14-J01A; B14-J01B; B14-J02B; B14-J02D2; B14-J05A; B14-J05B; B14-J07; B14-K01; B14-K01A; B14-L09; B14-N01; B14-N07D; B14-N08; B14-N11; B14-N16; B14-N17; B14-S04

L29 ANSWER 4 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 2003-657566 [62] WPIX

DNN N2003-523948 DNC C2003-179525

TI **Phyllosilicate-polymer** composition for anisotropic liquid crystalline composite used for barrier **film**, which exhibits anomalous basal spacing and is present in a single **phyllosilicate-polymer** phase.

DC A25 A92 U11

IN CHAIKO, D J

PA (CHAI-I) CHAIKO D J

CYC 1

PI US 2003068450 A1 20030410 (200362)\* 14p C09K019-00

ADT US 2003068450 A1 US 2001-973302 20011009

PRAI US 2001-973302 20011009

IC ICM C09K019-00

AB US2003068450 A UPAB: 20030928

NOVELTY - A **phyllosilicate-polymer** composition

*Applicant*

comprises a **phyllosilicate** and a **polymer** layer adsorbed onto the basal surface of the **phyllosilicate**. The composition is present as a single **phyllosilicate-polymer** phase and exhibits an anomalous basal spacing.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) anisotropic liquid crystalline composite comprising the **phyllosilicate-polymer** composite which is a birefringent;

(2) production of anisotropic liquid crystalline composite from a **phyllosilicate** and a **polymer**, which comprises suspending **phyllosilicate** in a compatible solvent, dissolving a **polymer** soluble in the solvent and removing a preset amount of the solvent; and

(3) barrier **film** comprising the anisotropic liquid crystalline composite layer having a gas permeability below the gas permeability of the **polymer** in the liquid crystalline composite.

USE - For anisotropic liquid crystalline composite used for barrier **film** (both claimed) used in packaging and coating applications.

ADVANTAGE - The **phyllosilicate-polymer** composition has a highly ordered, defined basal spacing and is birefringent. The **phyllosilicate-polymer** liquid crystalline composite has excellent resistance to transport of gases, particularly oxygen and carbon dioxide as well as water resistance. The liquid crystalline composite is hydrophobic and extrudable and produces transparent barrier layers.

DESCRIPTION OF DRAWING(S) - The figure shows the basal spacing as a function of **polymer** loading in liquid crystal composites containing **polyethylene glycol**.

Dwg.1/6

FS CPI EPI  
 FA AB; GI  
 MC CPI: A09-A02A; A09-A09; A12-S06  
 EPI: U11-A03A

L29 ANSWER 5 OF 54 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 2003:699613 HCPLUS  
 DN 140:114078  
 ED Entered STN: 08 Sep 2003  
 TI Proton-conducting composite membranes derived from sulfonated hydrocarbon and inorganic materials  
 AU Chang, Jae-Hyuk; Park, Jong Hyeok; Park, Gu-Gon; Kim, Chang-Soo; Park, O. Ok  
 CS Department of Chemical & Biomolecular Engineering, Korea Advanced Institute of Science and Technology, Daejeon, 305-701, S. Korea  
 SO Journal of Power Sources (2003), 124(1), 18-25  
 CODEN: JPSODZ; ISSN: 0378-7753  
 PB Elsevier Science B.V.  
 DT Journal  
 LA English  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 Section cross-reference(s): 35, 38, 49, 76  
 AB Composite **polymer** membranes are prepared by embedding layered **silicates** such as Laponite and **Montmorillonite** (MMT) into sulfonated poly(ether ether ketone) (SPEEK) membranes for fuel-cell applications. Sulfonation of the **polymer** increased membrane hydrophilicity to give good proton conductivity. Layered **silicates** incorporated into **polymer** membranes help to reduce swelling

significantly in hot water; they also help to decrease methanol permeability. These **polymer/clay** composite membranes show thermal stability to 240° and  $(3-3.5) \times 10^{-3}$  S cm<sup>-1</sup> proton conductivity at room temperature. Methanol cross-over is reduced without a serious reduction in the proton conductivity. In a single-cell test using **hydrogen** and oxygen, the prepared membranes give current densities that are 70-80% of those with Nafion 115 membranes. As a result, for **polymer** electrolytes, SPEEK/**clay** composite membranes offer a low-cost alternative to perfluorinated membranes.

ST proton conducting composite **clay** membrane sulfonated **polymer** fuel cell

IT Membranes, nonbiological  
(composite; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT Humidity  
(effect on electrochem. performance of fuel cell; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT Membranes, nonbiological  
(elec. conductive; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT **Ion** exchange  
(**hydrogen** for sodium in **silicate** structure; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT **Silicates**, uses  
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(layered, embedded into SPEEK; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT Carbon fibers, uses  
RL: DEV (Device component use); PRP (Properties); USES (Uses)  
(membrane electrode support; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT Electric current-potential relationship  
(of fuel cells with the membranes; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT Electric resistance  
(of membranes; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT Polyketones  
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
(polyether-, sulfonated, composite membranes with **clays**; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT Polyethers, uses  
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
(polyketone-, sulfonated, composite membranes with **clays**; proton-conducting composite membranes derived from sulfonated

hydrocarbon and layered **silicates**)

IT Current density

Fuel cell separators

Fuel cells

Permeability

**Polymer** electrolytes

Sulfonation

Thermal stability

(proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT Ionic conductivity

(proton; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT 7732-18-5, Water, processes

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)

(absorption of; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT 647827-07-4

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(embedded into SPEEK; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT 1333-74-0, **Hydrogen**, uses 7782-44-7, Oxygen, uses

RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)

(fuel cell fuel; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT 7440-06-4, Platinum, uses

RL: CAT (Catalyst use); DEV (Device component use); USES (Uses)

(membrane electrode with Nafion/carbon; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT 7440-44-0, Carbon, uses

RL: DEV (Device component use); USES (Uses)

(membrane electrode with Nafion/platinum; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT 77950-55-1, Nafion 115

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(membranes and membrane electrode with Pt/carbon; proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT 67-56-1, Methanol, processes

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)

(proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT 7664-93-9, Sulfuric acid, reactions 31694-16-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(proton-conducting composite membranes derived from sulfonated hydrocarbon and layered **silicates**)

IT 1318-93-0, **Montmorillonite** ((Al1.33-1.67Mg0.33-0.67)(Ca0-1Na0-1)0.33Si4(OH)2010.xH2O), uses

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or

engineered material use); PROC (Process); USES (Uses)  
 (sodium-rich, embedded into SPEEK; proton-conducting composite  
 membranes derived from sulfonated hydrocarbon and layered  
 silicates)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE

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- (2) Bishop, M; Macromolecules 1985, V18, P86 HCPLUS
- (3) Colquhoun, H; Polymer 1997, V38(17), P4539 HCPLUS
- (4) Jin, X; Br Polym J 1985, V17, P4 HCPLUS
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- (10) Rikukawa, M; Prog Polym Sci 2000, V25, P1463 HCPLUS
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- (12) Walker, M; Surf Coat Technol 1999, V116, P996
- (13) Wilhelm, F; J Membr Sci 2002, V199, P167 HCPLUS
- (14) Zanetti, M; Macromol Mater Eng 2000, V279, P1 HCPLUS

L29 ANSWER 6 OF 54 HCPLUS COPYRIGHT 2004 ACS on STN

AN 2002:449478 HCPLUS

DN 137:24329

ED Entered STN: 14 Jun 2002

TI Pharmaceutical preparation in the form of a paste comprising an acid-labile active ingredient

IN Dietrich, Rango; Linder, Rudolf

PA BYK Gulden Lomberg Chemische Fabrik G.m.b.H., Germany

SO PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K009-06

ICS A61K031-4439

CC 63-6 (Pharmaceuticals)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002045686	A2	20020613	WO 2001-EP14253	20011205
	WO 2002045686	A3	20021212		
	W: AE, AL, AU, BA, BG, BR, CA, CN, CO, CU, CZ, EC, EE, GE, HR, HU, ID, IL, IN, IS, JP, KR, LT, LV, MK, MX, NO, NZ, PH, PL, RO, SG, SI, SK, UA, US, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	AU 2002031654	A5	20020618	AU 2002-31654	20011205
	EP 1341524	A2	20030910	EP 2001-991781	20011205
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	EP 2000-126828	A	20001207		
	WO 2001-EP14253	W	20011205		
AB	The present invention relates to the field of pharmaceutical technol. and describes a pharmaceutical preparation in the form of a paste comprising an acid-labile active ingredient, in particular an acid-labile proton pump inhibitor. The invention also relates to processes for producing the paste. The paste is particularly suitable for administering acid-labile active ingredients to animals or to people who have difficulty taking				

solid dosage forms such as tablets or capsules. A composition was prepared containing solid paraffin, cetyl alc., stearylamine, povidone, and pantoprazole sodium sesquihydrate.

ST pharmaceutical paste acid labile drug; pantoprazole paste

IT Fatty acids, biological studies  
RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(esters; pharmaceutical preparation in the form of a paste comprising an acid-labile active ingredient)

IT Alcohols, biological studies  
RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(fatty; pharmaceutical preparation in the form of a paste comprising an acid-labile active ingredient)

IT Drug delivery systems  
(pastes; pharmaceutical preparation in the form of a paste comprising an acid-labile active ingredient)

IT Buffers  
Flavoring materials  
Preservatives  
(pharmaceutical preparation in the form of a paste comprising an acid-labile active ingredient)

IT Glycerides, biological studies  
Paraffin waxes, biological studies  
Polyoxyalkylenes, biological studies  
**Silicates**, biological studies  
RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(pharmaceutical preparation in the form of a paste comprising an acid-labile active ingredient)

IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 57-88-5, Cholesterol, biological studies 83-46-5  
540-10-3, Cetyl palmitate 555-44-2, Dynasan 116 555-45-3, Dynasan 114  
9000-01-5, Gum acacia 9000-07-1, Carrageenan 9000-69-5, Pectin  
9004-34-6D, Cellulose, modified 9005-32-7, Alginic acid 11138-66-2, Xanthan gum 25086-89-9, Vinylacetate-vinylpyrrolidone copolymer  
**25322-68-3, Peg** 36653-82-4, Cetyl alcohol  
106392-12-5, Poloxamer  
RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(pharmaceutical preparation in the form of a paste comprising an acid-labile active ingredient)

IT 164579-32-2 199387-73-0  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)  
(pharmaceutical preparation in the form of a paste comprising an acid-labile active ingredient)

IT 102625-70-7, Pantoprazole  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(pharmaceutical preparation in the form of a paste comprising an acid-labile active ingredient)

IT 12408-02-5, **Hydrogen ion**, biological studies  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(pumps, inhibitors; pharmaceutical preparation in the form of a paste comprising an acid-labile active ingredient)

AN 2002-566522 [60] WPIX  
 DNC C2002-160493  
 TI Use of inorganic zirconium compounds as low-thickening fillers in crosslinkable liquid silicone compositions, especially for coating fibrous substrates.  
 DC A26 A82 E32 G02  
 IN DESNE, F; POUCHERON, A  
 PA (RHOD) RHODIA CHIM  
 CYC 99  
 PI WO 2002038661 A1 20020516 (200260)\* FR 39p C08K003-00  
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ  
 NL OA PT SD SE SL SZ TR TZ UG ZW  
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK  
 DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR  
 KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT  
 RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
 AU 2002018354 A 20020521 (200260) C08K003-00  
 FR 2816312 A1 20020510 (200260) C08K003-34  
 EP 1332174 A1 20030806 (200353) FR C08K003-00  
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
 RO SE SI TR  
 ADT WO 2002038661 A1 WO 2001-FR3494 20011109; AU 2002018354 A AU 2002-18354  
 20011109; FR 2816312 A1 FR 2000-14404 20001109; EP 1332174 A1 EP  
 2001-993645 20011109, WO 2001-FR3494 20011109  
 FDT AU 2002018354 A Based on WO 2002038661; EP 1332174 A1 Based on WO  
 2002038661  
 PRAI FR 2000-14404 20001109  
 IC ICM C08K003-00; C08K003-34  
 ICS C08K003-20; C08L083-04; C08L083-07; C09D005-18; C09D183-07;  
 D06M015-65  
 AB WO 2002038661 A UPAB: 20020919  
 NOVELTY - Inorganic zirconium (Zr) compounds are used as low-thickening fillers in crosslinkable liquid silicone compositions.  
 DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:  
 (1) a crosslinkable liquid silicone coating composition that comprises a low-thickening filler comprising one or more inorganic Zr compounds and has a total filler content of 100-350 parts by weight (pbw) per 100 pbw filler-free composition; and  
 (2) a woven or nonwoven fibrous substrate coated on at least one side with the composition of (1).  
 USE - The compositions are especially useful for coating woven or nonwoven fibrous substrates comprising glass, polyester or polyamide fibers (claimed), e.g. in the manufacture of coated tarpaulins.  
 ADVANTAGE - The Zr compounds can be used in large amounts without excessively increasing the viscosity of the compositions and also lower the heating value of the compositions and impart fire resistance.  
 Dwg.0/0  
 FS CPI  
 FA AB; DCN  
 MC CPI: A05-E01B2; A05-F01D; A06-A00E1; A08-R05; A12-B02B; A12-S05G; E31-P03;  
 E31-P05B; E34-B01; E34-C02; E34-D03; E35-L; G02-A05; G02-A05D  
 L29 ANSWER 8 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 2002-657309 [70] WPIX  
 DNC C2002-184321  
 TI Granulated hydrophobizing additive for gypsum composition includes organopolysiloxane, water soluble or water dispersible binder, and

carrier.

DC A26 A93 L02  
 IN BUTLER, D; GUBBELS, F; WEHNER, M; WINDRIDGE, J  
 PA (DOWO) DOW CORNING CORP; (DOWO) DOW CORNING SA  
 CYC 98  
 PI WO 2002030847 A1 20020418 (200270)\* EN 30p C04B024-42  
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ  
 NL OA PT SD SE SL SZ TR TZ UG ZW  
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK  
 DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR  
 KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO  
 RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
 AU 2001087904 A 20020422 (200270) C04B024-42  
 EP 1328487 A1 20030723 (200350) EN C04B024-42  
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
 RO SE SI TR  
 ADT WO 2002030847 A1 WO 2001-GB4198 20010920; AU 2001087904 A AU 2001-87904  
 20010920; EP 1328487 A1 EP 2001-967531 20010920, WO 2001-GB4198 20010920  
 FDT AU 2001087904 A Based on WO 2002030847; EP 1328487 A1 Based on WO  
 2002030847  
 PRAT GB 2000-24642 20001007  
 IC ICM C04B024-42  
 ICS C04B028-14; C08J003-12  
 ICI C04B103:65  
 AB WO 200230847 A UPAB: 20021031  
 NOVELTY - A granulated hydrophobizing additive comprises an organopolysiloxane, a water soluble or water dispersible binder, and a carrier.

DETAILED DESCRIPTION - A granulated hydrophobizing additive comprises an organopolysiloxane, a water soluble or water dispersible binder, and a carrier. The organopolysiloxane has the formula  
 $R_3SiO(R'2SiO)_a(RR'SiO)_b(R2SiO)_cSiR_3$ .

R = OH, alkyl, alkenyl, aryl, alkyl-aryl, aryl-alkyl, alkoxy, aryloxy, or H;  
 R' = OH, H, optionally substituted hydrocarbon, or OR''';  
 R''' = 1-6C hydrocarbon;  
 R = organosilane chain of O(R'2SiO)<sub>x</sub>SiR<sub>3</sub>;  
 a = integer;  
 b, c, and x = 0 or integers.  
 b+c is not more than 10% of a+b+c+x, and at least 10% of the cumulative total of R+R' substituents are H.

An INDEPENDENT CLAIM is also included for a process for imparting a hydrophobic character to a gypsum material comprising mixing into the gypsum material a granulated hydrophobizing additive comprising an organopolysiloxane containing silicon bonded hydrogen, a water soluble or water dispersible binder and a carrier; and a pH effecting additive adapted to maintain the pH of the mixture in the presence of water at pH 8-12.5.

USE - As additive for gypsum composition (claimed) used in external masonry.

ADVANTAGE - The additive provides a gypsum which is sufficiently hydrophobic for it to be used in external wall applications.

Dwg. 0/0

FS CPI  
 FA AB  
 MC CPI: A06-A00E; A12-R01A; L02-D07A

AN 2002:837475 HCPLUS  
 DN 138:130150  
 ED Entered STN: 05 Nov 2002  
 TI Purification and modification of **montmorillonite** by adsorption through **ion**-dipole and **hydrogen**-bonding interaction  
 AU Zhang, Nan; Xu, Ru-wei; Yu, Ding-sheng  
 CS College of Materials Science & Engineering, The Key Laboratory of Science and Technology of Controllable Chemical Reactions, Ministry of Education, The Key Laboratory of Beijing City on Preparation and Processing of Novel Polymer Materials, Beijing University of Chemical Technology, Beijing, 100029, Peop. Rep. China  
 SO Shiyu Huagong (2002), 31(10), 807-810  
 CODEN: SHHUE8; ISSN: 1000-8144  
 PB Shiyu Huagong Bianjibu  
 DT Journal  
 LA Chinese  
 CC 78-3 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 38, 66  
 AB Bentonite was modified by **ion**-dipole and **hydrogen**-bonding interactions, resulting in increase in expansion capacity and cation exchange capacity, indicating an increase in the content of **montmorillonite** (MMT) component and the effectiveness of the purification process and the modification with sodium. XRD, IR spectra and TG curves also indicated the realization of organic modification of **montmorillonite** with increase in the d001 interlayer distance. Then the product was further organically modified with quaternary ammonium salts. The XRD results showed that the interlayer distance of MMT continued to increase inferring that the first modification did not affect the second one. The TG and IR spectrum and the XRD results showed the hygroscopicity of the orgs. intercalated MMT decreased. Reaction mechanism study was revealed this as a phase transfer reaction.  
 ST bentonite purifn intercalation; **montmorillonite PEG**  
 alkylammonium intercalate cation exchange prepn  
 IT Cation exchangers  
     (capacity; purification and modification of **montmorillonite** with increased expansion capacity and cation exchange capacity)  
 IT Polyoxyalkylenes, preparation  
     RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (intercalation product with sodium **montmorillonite**; purification and modification of **montmorillonite** with increased expansion capacity and cation exchange capacity)  
 IT Bentonite, reactions  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
         (modification to give increased **montmorillonite** content)  
 IT 1318-93-0DP, **Montmorillonite**, sodium exchanged intercalation products with **PEG** and CTABr  
     RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
         (purification and modification of **montmorillonite** with increased expansion capacity and cation exchange capacity)  
 IT 57-09-0DP, Cetyltrimethylammonium bromide, intercalation product with **montmorillonite-PEG 25322-68-3DP**, **PEG**, intercalation product with sodium **montmorillonite**  
     RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
         (purification and modification of **montmorillonite** with increased expansion capacity and cation exchange capacity)

AN 2002:542130 HCAPLUS  
DN 137:252205  
ED Entered STN: 21 Jul 2002  
TI Optimal conditions in the coagulation for color removal from dyestuff wastewater  
AU Cheng, Wen Po; Chu, Jason  
CS Department of Safety, Health and Environmental Engineering, National Lien-Ho Institute of Technology, Miaoli, Taiwan, 360, Peop. Rep. China  
SO Zhongguo Huanjing Gongcheng Xuekan (2002), 12(1), 29-39  
CODEN: ZHGXEL; ISSN: 1022-7636  
PB Chinese Institute of Environmental Engineering  
DT Journal  
LA English  
CC 60-2 (Waste Treatment and Disposal)  
Section cross-reference(s): 41  
AB The major challenge regarding dyeing wastewater treatment is the difficulty in removing dye from wastewater and the great variation in wastewater quality during batch production. Coagulation has been a common practice for this treatment. This study evaluated the efficiency of coagulants used to treat dyeing wastewater. Results showed coagulation using FeSO<sub>4</sub> and polyferric sulfate (PFS) were significantly more efficient than using Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>. Optimal pH for coagulation by FeSO<sub>4</sub> was 9.5-10 and 6-7 for PFS. When FeSO<sub>4</sub> and PFS were applied simultaneously, color removal improved from 90 to 95%. Both FeSO<sub>4</sub> and Ca(OH)<sub>2</sub> effectively removed color, although their modes of action on floc blanket settling velocity were completely opposite. The application sequence affected performance of the combined treatment using FeSO<sub>4</sub> and Ca(OH)<sub>2</sub>. Central composite design and response surface methodol. were used to optimize conditions of the most influential variables in the conventional FeSO<sub>4</sub>-Ca(OH)<sub>2</sub> treatment procedure.  
ST coagulation wastewater treatment dye removal; decolorization wastewater treatment dye coagulation; iron sulfate polyferric sulfate coagulation dye removal wastewater; lime iron sulfate coagulation dye removal wastewater; anionic **polymer** coagulation dye removal wastewater  
IT Polyelectrolytes  
(anionic, coagulant additive; pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)  
IT Clay minerals  
RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(coagulant additive; pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)  
IT Lime (chemical)  
RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(coagulant; iron sulfate and; pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)  
IT Optimization  
(coagulation wastewater treatment; pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)  
IT Wastewater treatment  
(coagulation; pH, coagulant dose, additives, and addition sequence for

optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)

IT Wastewater treatment (decolorization; pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)

IT Wastewater treatment (settling; pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)

IT Dyes (wastewater from; pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)

IT Chemical oxygen demand (wastewater; pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)

IT 7720-78-7, Ferrous sulfate 10028-22-5, Ferric sulfate  
RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(coagulant; alone and with polyferric sulfate or lime; pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)

IT 51434-22-1, Polyferric sulfate  
RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(coagulant; iron sulfate and; pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)

IT 1325-54-8, C.I. Direct Orange 39 6483-65-4 362512-93-4, Leather Black NG  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)  
(pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)

IT 12408-02-5, Hydrogen ion, occurrence  
RL: OCU (Occurrence, unclassified); OCCU (Occurrence)  
(wastewater; pH, coagulant dose, additives, and addition sequence for optimal decolorization of and COD removal from dye manufacturing wastewater via coagulation)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Allal, K; J Chem Tech Biotechnol 1996, V66, P398 HCPLUS
- (2) Cheng, W; Colloid and Surfaces A 2001, V182, P57 HCPLUS
- (3) Ching, H; Wat Res 1994, V28, P559 HCPLUS
- (4) Derringer, G; J Qual Control 1980, V12, P214
- (5) Ho, B; Tappi Environmental Conf 1991, P617
- (6) Jiang, J; J Chem Tech Biotechnol 1998, V73, P351 HCPLUS
- (7) Jiang, J; Wat Res 1998, V32, P930
- (8) Jiang, J; Wat Sci Tech 1993, V27, P221 HCPLUS
- (9) Jimidar, M; J Chromatogr 1996, V740, P109 HCPLUS
- (10) Kittel, C; Thermal physics 1980
- (11) Meyer, H; J Crystal Growth 1984, V66, P639 HCPLUS
- (12) Mikami, Y; Coagulation Properties and Application of Polyferic Sulphate

1980, V11, P24 HCAPLUS  
 (13) Myers, R; Response Surface Methodology 1995  
 (14) Odegaard, H; Chemical Water and Wastewater Treatment 1990  
 (15) Stephenson, R; Wat Res 1996, V30, P781 HCAPLUS  
 (16) Tamura, H; Talanta 1973, V21, P314  
 (17) Tenny, A; Wat 1992, V10(Supply), P167

L29 ANSWER 11 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1  
 AN 2001:192551 HCAPLUS  
 DN 134:222174  
 ED Entered STN: 21 Mar 2001  
 TI Well designs for electrokinetic remediation  
 IN Hodko, Dolibor  
 PA Lynntech, Inc., USA  
 SO U.S., 15 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM C25C001-22  
 NCL 204515000  
 CC 19-9 (Fertilizers, Soils, and Plant Nutrition)  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6203682	B1	20010320	US 1998-139991	19980825
PRAI US 1998-139991		19980825		

AB The invention provides an apparatus for electrokinetic transport through soil, comprising an electrode and a containment surrounding the electrode, the containment comprising a layer of a porous material and a rigid porous member disposed between the electrode and the porous material to support or secure the first material. The porous material and rigid porous member allow passage of water, **hydrogen ions**, **hydroxyl ions** and one or more target ions. A preferred porous material is **clay** or ceramic and a preferred rigid porous member is a perforated **plastic** tube.

ST electrokinetic soil remediation  
 IT Electric transport properties  
 Soil reclamation  
 (well for electrokinetic soil remediation)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE  
 (1) Acar; US 5137608 1992 HCAPLUS  
 (2) Acar; US 5616235 1997 HCAPLUS  
 (3) Anon; EP 88202274 1988  
 (4) Anon; NL 88202274 1991  
 (5) Barton; US 4479857 1984 HCAPLUS  
 (6) Bell; US 3782465 1974  
 (7) Bell; US 4367132 1983 HCAPLUS  
 (8) Bell; US 4382341 1983  
 (9) Brodsky; US 5398756 1995  
 (10) Collopy; US 2831804 1958 HCAPLUS  
 (11) Griffith; US 5584980 1996 HCAPLUS  
 (12) Ho; US 5476992 1995 HCAPLUS  
 (13) Lindgren; US 5435895 1995 HCAPLUS  
 (14) Lomasney; US 5405509 1995 HCAPLUS  
 (15) Lomasney; US 5489370 1996 HCAPLUS  
 (16) Marks; US 5458747 1995 HCAPLUS  
 (17) Patten; US 4453594 1984 HCAPLUS

- (18) Peters; US 5416257 1995
- (19) Probstein; US 5074986 1991 HCAPLUS
- (20) Sunderland; US 5725752 1998 HCAPLUS
- (21) Titus; US 4495990 1985

L29 ANSWER 12 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:661712 HCAPLUS  
 DN 135:223737  
 ED Entered STN: 10 Sep 2001  
 TI Electrode device with a solid state reference system of sodium vanadium bronze  
 IN Sorensen, Poul Ravn; Zachau-christiansen, Birgit  
 PA Radiometer Medical A/s, Den.  
 SO PCT Int. Appl., 41 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM G01N027-327  
 CC 9-1 (Biochemical Methods)  
 Section cross-reference(s): 72, 79

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001065247	A1	20010907	WO 2001-DK139	20010301
	W: JP, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	EP 1269172	A1	20030102	EP 2001-909570	20010301
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	JP 2003525450	T2	20030826	JP 2001-563894	20010301
PRAI	DK 2000-327	A	20000301		
	WO 2001-DK139	W	20010301		
AB	The invention concerns an electrode device comprising an ion selective material, a solid state, inner reference system of sodium vanadium bronze and a contact material, where sodium may be reversibly intercalated in the bronze. Such an electrode device may for instance be sensitive to ions, such as H <sup>+</sup> , Na <sup>+</sup> , K <sup>+</sup> , and Ca <sup>2+</sup> . It may also include a reactive material in which a particular analyte is reacted to form an ion product, to which the ion selective material is sensitive, such as in electrode devices of the Severinghaus-type or in biosensors. The electrode device according to the invention can be prepared by thick film printing.				
ST	electrode device solid state ref system; sodium vanadium bronze ref system electrode; ion sensitive electrode sensor; biosensor electrode solid state ref				
IT	Ion-selective electrodes (ammonium-selective; electrode device with solid state reference system of sodium vanadium bronze)				
IT	Gases (barrier permeable to; electrode device with solid state reference system of sodium vanadium bronze)				
IT	Ion-selective electrodes (cadmium-selective; electrode device with solid state reference system of sodium vanadium bronze)				
IT	Binders Blood analysis Electrodes Electrolytes				

Electronic device fabrication  
Enzyme electrodes  
Ion-selective electrodes  
Ions  
Reference electrodes  
pH  
(electrode device with solid state reference system of sodium vanadium bronze)  
IT Enzymes, uses  
Reagents  
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)  
(electrode device with solid state reference system of sodium vanadium bronze)  
IT Polyamides, uses  
Polyesters, uses  
Polyoxyalkylenes, uses  
RL: DEV (Device component use); USES (Uses)  
(electrode device with solid state reference system of sodium vanadium bronze)  
IT Polymers, reactions  
RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(electrode device with solid state reference system of sodium vanadium bronze)  
IT Metals, uses  
Noble metals  
RL: DEV (Device component use); USES (Uses)  
(for contact material; electrode device with solid state reference system of sodium vanadium bronze)  
IT Ion-selective electrodes  
(hydrogen-selective; electrode device with solid state reference system of sodium vanadium bronze)  
IT Epoxides  
Polycarbonates, reactions  
Polyesters, reactions  
Polysiloxanes, reactions  
Polyurethanes, reactions  
RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(in binders; electrode device with solid state reference system of sodium vanadium bronze)  
IT Ionophores  
(in polymer membrane for ion-selective material; electrode device with solid state reference system of sodium vanadium bronze)  
IT Membranes, nonbiological  
(ionophore-containing polymer; electrode device with solid state reference system of sodium vanadium bronze)  
IT Ion-selective electrodes  
(lead-selective; electrode device with solid state reference system of sodium vanadium bronze)  
IT Ion-selective electrodes  
(lithium-selective electrodes; electrode device with solid state reference system of sodium vanadium bronze)  
IT Ion-selective electrodes  
(magnesium-selective; electrode device with solid state reference system of sodium vanadium bronze)  
IT Ion-selective electrodes

(nickel-selective; electrode device with solid state reference system of sodium vanadium bronze)

IT Electrodes  
(planar; electrode device with solid state reference system of sodium vanadium bronze)

IT **Kaolin**, uses  
RL: DEV (Device component use); USES (Uses)  
(silanized; electrode device with solid state reference system of sodium vanadium bronze)

IT Ion-selective electrodes  
(silver-selective; electrode device with solid state reference system of sodium vanadium bronze)

IT Ion-selective electrodes  
(sodium-selective; electrode device with solid state reference system of sodium vanadium bronze)

IT Ceramics  
(supports; electrode device with solid state reference system of sodium vanadium bronze)

IT Printing (nonimpact)  
(thick-film; electrode device with solid state reference system of sodium vanadium bronze)

IT Ion-selective electrodes  
(urea-selective, enzyme; electrode device with solid state reference system of sodium vanadium bronze)

IT Enzyme electrodes  
(urea-selective; electrode device with solid state reference system of sodium vanadium bronze)

IT 57-13-6, Urea, analysis 7664-41-7, Ammonia, analysis 12408-02-5,  
**Hydrogen ion**, analysis 14127-61-8, Calcium ion,  
analysis 14280-50-3, Pb<sup>2+</sup>, analysis 14701-21-4, Silver ion, analysis  
14701-22-5, analysis 14798-03-9, Ammonium ion, analysis 17341-24-1,  
analysis 17341-25-2, Sodium ion, analysis 18459-37-5, Cesium ion,  
analysis 22537-38-8, Rubidium ion, analysis 22537-39-9, Strontium ion,  
analysis 22537-48-0, Cadmium ion, analysis 22541-12-4, Barium ion,  
analysis 22541-53-3, analysis 24203-36-9, Potassium ion, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(electrode device with solid state reference system of sodium vanadium  
bronze)

IT 124-38-9, Carbon dioxide, analysis  
RL: ANT (Analyte); ARU (Analytical role, unclassified); ANST (Analytical  
study)  
(electrode device with solid state reference system of sodium vanadium  
bronze)

IT 9002-13-5, Urease  
RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
(Analytical study); USES (Uses)  
(electrode device with solid state reference system of sodium vanadium  
bronze)

IT 7782-44-7, Oxygen, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(electrode device with solid state reference system of sodium vanadium  
bronze)

IT 57-50-1, Sucrose, uses 112-15-2, Carbitol acetate 144-55-8, Sodium  
**hydrogen** carbonate, uses 1344-28-1, Aluminum oxide, uses  
2487-90-3, Trimethoxysilane 7447-40-7, Potassium chloride, uses  
7783-90-6, Silver chloride, uses 9003-39-8, Polyvinylpyrrolidone  
9011-14-7, Polymethylmethacrylate 15802-18-3 25038-59-9, Polyethylene  
terephthalate, uses 25322-68-3, **Polyethylene**

**glycol** 107253-34-9, Sodium vanadium oxide (Na0.33V2O5)  
 RL: DEV (Device component use); USES (Uses)  
 (electrode device with solid state reference system of sodium vanadium  
 bronze)  
 IT 7439-88-5, Iridium, uses 7440-05-3, Palladium, uses 7440-06-4,  
 Platinum, uses 7440-16-6, Rhodium, uses 7440-57-5, Gold, uses  
 RL: DEV (Device component use); USES (Uses)  
 (for contact material; electrode device with solid state reference system of  
 sodium vanadium bronze)  
 IT 9002-81-7, Polyoxyethylene 9002-86-2, Polyvinyl chloride 9003-01-4,  
 Polyacrylic acid 9003-18-3, Butadiene acrylonitrile copolymer  
 9003-53-6, Polystyrene 9004-34-6, Cellulose, reactions 9004-34-6D,  
 Cellulose, derivs., reactions 9004-35-7, Cellulose acetate 9004-57-3,  
 Ethyl cellulose 9005-18-9, Propyl cellulose 25087-26-7,  
 Polymethacrylic acid  
 RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or  
 reagent); USES (Uses)  
 (in binders; electrode device with solid state reference system of sodium  
 vanadium bronze)  
 IT 6833-84-7, Nonactin  
 RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
 (Analytical study); USES (Uses)  
 (in preparation of ammonium ion-selective membrane; electrode device with  
 solid state reference system of sodium vanadium bronze)  
 IT 117-81-7, Dioctylphthalate 14680-77-4, Potassium-tetra-p-  
 chlorophenylborate 58801-34-6, ETH1001  
 RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
 (Analytical study); USES (Uses)  
 (in preparation of calcium ion-selective membrane; electrode device with  
 solid state reference system of sodium vanadium bronze)  
 IT 108-94-1, Cyclohexanone, uses 109-99-9, Tetrahydrofuran, uses  
 RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)  
 (in preparation of calcium ion-selective membrane; electrode device with  
 solid state reference system of sodium vanadium bronze)  
 IT 3586-60-5, TDDA  
 RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
 (Analytical study); USES (Uses)  
 (in preparation of **hydrogen** ion-selective membrane;  
 electrode device with solid state reference system of sodium vanadium  
 bronze)  
 IT 103-23-1, Dioctyl adipate 2001-95-8, Valinomycin  
 RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
 (Analytical study); USES (Uses)  
 (in preparation of potassium ion-selective membrane; electrode device with  
 solid state reference system of sodium vanadium bronze)  
 IT 97600-39-0  
 RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
 (Analytical study); USES (Uses)  
 (in preparation of sodium ion-selective membrane; electrode device with  
 solid state reference system of sodium vanadium bronze)  
 IT 7631-86-9, Silica, uses  
 RL: DEV (Device component use); USES (Uses)  
 (pyrogenic; electrode device with solid state reference system of sodium  
 vanadium bronze)  
 IT 12597-70-5, Bronze  
 RL: DEV (Device component use); USES (Uses)  
 (sodium vanadium; electrode device with solid state reference system of  
 sodium vanadium bronze)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Ammende, S; US 5122254 A 1992 HCPLUS  
 (2) Dobson, J; GB 1597493 A 1981 HCPLUS

L29 ANSWER 13 OF 54 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:280345 HCPLUS  
 DN 134:268840  
 ED Entered STN: 20 Apr 2001  
 TI Process for the production of alkaline rechargeable batteries  
 IN Kawakami, Soichiro; Tani, Atsushi  
 PA Canon Kabushiki Kaisha, Japan  
 SO Eur. Pat. Appl., 30 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM H01M004-38  
 ICS H01M004-62; C01B003-00  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 Section cross-reference(s): 38, 56

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PT	EP 1093171	A2	20010418	EP 2000-307852	20000911
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	TW 508862	B	20021101	TW 2000-89118639	20000908
	CN 1292579	A	20010425	CN 2000-130987	20000911
	JP 2001148244	A2	20010529	JP 2000-274703	20000911
	US 6475664	B1	20021105	US 2000-658946	20000911
PRAI	JP 1999-255840	A	19990909		
AB	In an alkali rechargeable battery having an anode principally comprising a magnesium-nickel alloy capable of storing <b>hydrogen</b> therein and releasing the <b>hydrogen</b> stored therein in electrochem. reaction, the magnesium-nickel alloy constituting the anode has a surface having a coat layer provided thereon, and the coat layer comprises an insulating material which is not dissolved in an electrolyte solution comprising an aqueous alkali solution used in the rechargeable battery, which restrains a reaction which causes a magnesium hydroxide when the magnesium-nickel alloy contacts with the electrolyte solution, and which allows <b>hydrogen</b> or <b>hydrogen ion</b> to pass there through. A process for the production of the rechargeable battery is disclosed.				
ST	battery alk rechargeable fabrication; <b>hydrogen</b> absorption anode battery				
IT	<b>Polymers</b> , uses				
	RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)				
	(ionomer-containing; process for production of alkaline rechargeable batteries)				
IT	Ionomers				
	RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)				
	( <b>polymer</b> containing; process for production of alkaline rechargeable batteries)				
IT	Battery anodes				
	Secondary batteries				
	(process for production of alkaline rechargeable batteries)				

IT 7429-90-5, Aluminum, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (Mg-Ni alloy coated with; process for production of alkaline rechargeable batteries)

IT 1309-42-8, Magnesium hydroxide  
 RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)  
 (anode treated with solution containing; process for production of alkaline rechargeable batteries)

IT 1302-42-7, Sodium aluminate 1310-58-3, Potassium hydroxide (K(OH)), uses 1310-65-2, Lithium hydroxide (Li(OH)) 7601-54-9, Trisodium phosphate 7789-23-3, Potassium fluoride 12054-48-7, Nickel hydroxide 12615-39-3, Aluminum 50, lithium 50 atomic 12683-37-3 53590-21-9 77325-33-8, Magnesium 66.7, nickel 33.3 atomic  
 RL: DEV (Device component use); USES (Uses)  
 (process for production of alkaline rechargeable batteries)

IT 7440-50-8, Copper, uses  
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (process for production of alkaline rechargeable batteries)

IT 7440-48-4, Cobalt, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (process for production of alkaline rechargeable batteries)

IT **1333-74-0, Hydrogen, uses**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (process for production of alkaline rechargeable batteries)

IT 144-55-8, Sodium bicarbonate, reactions 1305-62-0, Calcium hydroxide, reactions 1310-73-2, Sodium hydroxide, reactions 1344-09-8, Sodium silicate 7446-70-0, Aluminum chloride, reactions 7487-88-9, Magnesium sulfate, reactions 7550-45-0, Titanium tetrachloride, reactions 7631-99-4, Sodium nitrate, reactions 7632-05-5, Sodium phosphate 7647-14-5, Sodium chloride, reactions 7681-49-4, Sodium fluoride, reactions 7705-07-9, Titanium trichloride, reactions 7705-08-0, Iron trichloride, reactions 7757-82-6, Sodium sulfate, reactions 7775-11-3, Sodium chromate 7786-30-3, Magnesium chloride, reactions 7790-69-4, Lithium nitrate 10026-11-6, Zirconium tetrachloride 10043-52-4, Calcium chloride, reactions 10241-03-9, Zirconium trichloride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (process for production of alkaline rechargeable batteries)

IT 7664-41-7, Ammonia, uses 7778-50-9, Potassium dichromate 7783-20-2, Ammonium sulfate, uses 21645-51-2, Aluminum hydroxide, uses 39366-43-3, Aluminum Magnesium hydroxide  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (process for production of alkaline rechargeable batteries)

L29 ANSWER 14 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:445429 HCAPLUS  
 DN 135:113313  
 ED Entered STN: 20 Jun 2001  
 TI Uptake of various radionuclides by hydrothermally prepared molybdenum phosphates  
 AU Moller, T.; Harjula, R.  
 CS Laboratory of Radiochemistry, Department of Chemistry, University of Helsinki, Helsinki, FIN-00014, Finland  
 SO Separation Science and Technology (2001), 36(5 & 6), 885-897  
 CODEN: SSTEDS; ISSN: 0149-6395  
 PB Marcel Dekker, Inc.



IT 13966-31-9, Manganese-54, properties 13967-70-9, Cesium-134, properties  
 13967-73-2, Strontium-85, properties 13981-50-5, Cobalt-57, properties  
 13982-39-3, Zinc-65, properties 14391-76-5, Silver-110, properties  
 14392-02-0, Chromium-51, properties 14596-10-2, Americium-241,  
 properties 14596-12-4, Iron-59, properties 15411-92-4, Plutonium-236,  
 properties  
 RL: PRP (Properties); REM (Removal or disposal); PROC (Process)  
 (uptake of various radionuclides by hydrothermally prepared molybdenum  
 phosphates)

IT 121787-71-1P, Phosphonium, tetraphenyl-, sodium **hydrogen**  
 nona- $\mu$ -oxohexaoxotris[ $\mu$ -[phosphato(3-)-O:O']] [ $\mu$ 6-[phosphato(3-)-  
 O:O:O':O':O'']] hexamolybdate(12-) (3Mo-Mo) (2:1:9:1), heptahydrate  
 124401-84-9P 350236-18-9P 350236-19-0P 350248-58-7P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (uptake of various radionuclides by hydrothermally prepared molybdenum  
 phosphates)

IT 75-59-2, Tetramethylammonium hydroxide 1313-27-5, Molybdenum oxide  
 (MoO<sub>3</sub>), reactions 1941-30-6, Tetrapropylammonium bromide 2751-90-8,  
 Phosphonium, tetraphenyl-, bromide 6484-52-2, Nitric acid ammonium salt,  
 reactions 7439-98-7, Molybdenum, reactions 7631-95-0, Sodium molybdate  
 (Na<sub>2</sub>MoO<sub>4</sub>) 7664-38-2, Phosphoric acid, reactions 7705-08-0, Iron  
 chloride (FeCl<sub>3</sub>), reactions 7732-18-5, Water, reactions 7757-79-1,  
 Nitric acid potassium salt, reactions 10124-31-9, Phosphoric acid,  
 ammonium salt 27546-07-2, Ammonium dimolybdate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (uptake of various radionuclides by hydrothermally prepared molybdenum  
 phosphates)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Corcoran, E; Inorg Chem 1990, V29, P158
- (2) Haushalter, R; Inorg Chem 1989, V28, P2904 HCAPLUS
- (3) Lehto, J; React Funct Polym 1995, V27, P121 HCAPLUS
- (4) Meyer, L; Inorg Chem 1993, V32, P1579 HCAPLUS
- (5) Millini, R; J Solid State Chem 1995, V118, P153 HCAPLUS
- (6) Poojary, D; Chem Mater 1994, V6, P2364 HCAPLUS
- (7) van Smit, J; J Inorg Nucl Chem 1965, V27, P227

L29 ANSWER 15 OF 54 JICST-EPlus COPYRIGHT 2004 JST on STN

AN 1020372436 JICST-EPlus

TI Effect of molybdate adsorption on some surface properties of nano-ball  
 allophane.

AU ELHADI E A; MATSUE N; HENMI T

CS Ehime Univ., Matsuyama, Jpn

SO Clay Sci, (2001) vol. 11, no. 5, pp. 405-416. Journal Code: G0436A (Fig.  
 6, Ref. 16)

CODEN: CLASAJ; ISSN: 0009-8574

CY Japan

DT Journal; Article

LA English

STA New

AB Cation exchange capacity (CEC) of nano-ball allophane measured at same  
 equilibrium pH increased with molybdate adsorption at initial molybdate  
 concentrations of 0.1 and 1.6mM. The increase in CEC was attributed either  
 to deprotonation of silanol group near the adsorption site and/or negative  
 charge carried by the molybdate. Great differences in the amounts of  
 molybdate adsorption between the two initial molybdate concentrations  
 (0.1mM and 1.6mM) was not reflected in the change in CEC. This may be due  
 to **polymerization** of molybdate at higher concentrations (more

than 0.2mM), therefore, increase in CEC was ascribed to adsorption of monomeric molybdate species. Increase in CEC was greater for allophane samples with lower Si/Al ratios than for allophane sample with higher Si/Al ratio, in agreement with the trend of adsorption. Ab initio molecular orbital calculations indicated that Bonsted acidity of silanol group of allophane near adsorption site increased with the molybdate adsorption. The increase in acidity together with free Mo-OH or Mo-O<sup>-</sup> groups of molybdate adsorbed in monodentate form contributes the increase in CEC with the molybdate adsorption. (author abst.)

CC CC01030W (543.05:542.8)  
 CT aluminum **silicate**; microsphere; molybdate; cation exchange capacity; adsorption; silanol; dehydrogenation; acidity; **hydrogen ion** concentration; surface quality; ultrafine particle  
 BT aluminum compound; 3B group element compound; **silicate**(salt); silicon oxoate; silicon compound; carbon group element compound; oxoate; oxygen compound; oxygen group element compound; sphere; solid(cubic); molybdenum compound; 6A group element compound; transition metal compound; ion exchange capacity; capacity; **hydrogen** compound; removal; degree; concentration(ratio); fine particle; particle  
 ST nanoparticle

L29 ANSWER 16 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2000-423390 [36] WPIX

CR 2000-423389 [36]; 2002-680657 [73]

DNC C2000-128209

TI **Polymer clay** nanocomposites used to form articles having improved gas barrier properties comprising melt-processible matrix **polymer** and a mixture of at least two swellable layered **clay** materials.

DC A18 A28 A60 A92 B07 E19

IN BARBEE, R B; GILMER, J W; LAN, T; MATAYABAS, J C; PSIHOGIOS, V  
 PA (EACH) EASTMAN CHEM CO

CYC 25

PI WO 2000034376 A1 20000615 (200036)\* EN 47p C08K007-00  
 RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
 W: AU BR CA CN JP MX

AU 2000021681 A 20000626 (200045)

EP 1137706 A1 20011004 (200158) EN C08K007-00  
 R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE  
 BR 9916044 A 20011002 (200167) C08K007-00  
 JP 2003525964 W 20030902 (200358) 46p C08L101-00  
 MX 2001005694 A1 20020501 (200368) C08K003-34

ADT WO 2000034376 A1 WO 1999-US28988 19991207; AU 2000021681 A AU 2000-21681 19991207; EP 1137706 A1 EP 1999-966036 19991207, WO 1999-US28988 19991207; BR 9916044 A BR 1999-16044 19991207, WO 1999-US28988 19991207; JP 2003525964 W WO 1999-US28988 19991207, JP 2000-586817 19991207; MX 2001005694 A1 WO 1999-US28988 19991207, MX 2001-5694 20010606

FDT AU 2000021681 A Based on WO 2000034376; EP 1137706 A1 Based on WO 2000034376; BR 9916044 A Based on WO 2000034376; JP 2003525964 W Based on WO 2000034376; MX 2001005694 A1 Based on WO 2000034376

PRAI WO 1999-US28340 19991130; US 1998-111074P 19981207

IC ICM C08K003-34; C08K007-00; C08L101-00  
 ICS B32B027-20; B65D001-09; C08J005-00; C08K009-04

AB WO 2000034376 A UPAB: 20031022

NOVELTY - A **polymer-clay** nanocomposite comprises:

(i) a melt-processible matrix **polymer**; and incorporated therein

(ii) a mixture of at least two swellable layered **clay**

ER 16 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

TI **Polymer clay** nanocomposites used to form articles having improved gas barrier properties comprising melt-processible matrix **polymer** and a mixture of at least two swellable layered **clay** materials.

TI **Polymer clay** nanocomposites used to form articles having improved gas barrier properties comprising melt-processible matrix **polymer** and a mixture of at least two swellable layered **clay** materials.

AB WO 200034376 A UPAB: 20031022

NOVELTY - A **polymer-clay** nanocomposite comprises:

(i) a melt-processible matrix **polymer**; and incorporated therein

(ii) a mixture of at least two swellable layered **clay** materials.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) an article prepared from the above nanocomposite;

(2) preparation of the **polymer-clay** nanocomposite

by

(i) preparing a mixture of at least two swellable layered **clay** materials, and

(ii) incorporating the mixture with a matrix **polymer** by melt processing the matrix **polymer** with the mixture to form a nanocomposite;

(3) an intercalate comprising a mixture of at least two swellable layered **clay** materials intercalated with a melt-processible **polymer**;

(4) an exfoliate manufactured by shearing the intercalate to form several delaminated **clay** layers and **clay** tactoids of the swellable layered **clay** materials; and

(5) preparation of an intercalate comprising

(i) **clay** materials, and

(ii) incorporating the mixture with a matrix **polymer** to form an intercalate wherein the matrix **polymer** is intercalated between adjacent layers of the swellable layered **clay** materials.

USE - The nanocomposite is used to form articles in the form of **film**, sheet, preform, profile, extruded article, moulded article or moulded container. It may be in the form of a bottle. They form articles and containers and are ideally suitable for protecting consumable products such as food, drink and medicines. They can be used in multilayer bottles and containers, including beer bottles.

ADVANTAGE - The nanocomposites have improved gas barrier properties and have improved clarity.

Dwg.0/0

TECH

UPTX: 20000801

TECHNOLOGY FOCUS - **POLYMERS** - Preferred **Polymer**: The melt-processible matrix **polymer** comprises a polyester, polyetherester, polyamide, polyesteramide, polyurethane, polyimide, polyetherimide, polyurea, polyamideimide, polyphenyleneoxide, phenoxy resin, epoxy resin, polyolefin, polyacrylate, polystyrene, polyethylene-co-vinyl alcohol, or a copolymer thereof, or a mixture thereof. The melt-processible matrix **polymer** may comprise poly(m-xylylene adipamide), EVOH, or a copolymer thereof, or a mixture thereof, or it comprises polyethylene terephthalate or a copolymer thereof or a mixture thereof. The nanocomposite comprises 0-25 (0.5-15, 0.5-10) wt % of layered **clay** material.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred **Clay** Mixture: The mixture of layered **clay** materials comprises natural, synthetic or modified **phyllosilicates**. It may comprise natural, synthetic or modified **montmorillonites**, **saponites**, **hectorites**, micas, vermiculites, bentonites, nontromites, beidellites, volkonkoites, magadites, kenyaites or mixtures thereof. The mixture of layered **clay** materials includes bis(2-**hydroxyethyl**)octadecyl methyl ammonium **montmorillonite** and dodecyl ammonium **montmorillonite**, octadecyl trimethyl ammonium **montmorillonite** and tetramethyl ammonium **montmorillonite**, dodecyl ammonium **montmorillonite** and sodium **montmorillonite**. The layered **clay** materials are free flowing powders having a cation exchange capacity of 0.9-1.5 meq/g. At least 50 % of the layered **clay** materials are dispersed in the form of individual platelet particles and tactoids in the matrix **polymer**. The tactoids have a thickness of less than 20 nm. The mixture of layered **clay** materials is intercalated with an organic cation or a mixture of organic cations.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Composition: the **clay** materials are intercalated with an organic cation or a mixture of organic cations. The organic cation is of formula (I):

$((R_2)(R_1)M(R_3)(R_4)) + X^-$  (I),

M = nitrogen or phosphorous;

X<sup>-</sup> = halide, hydroxide or acetate anion, preferably chloride and bromide;

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> = organic and/or oligomeric ligands or may be

**hydrogen**.

The organic **cation** is derived from an onium salt compound comprising an ammonium or phosphonium salt compound. The organic cation comprises an alkyl ammonium ion, an alkyl phosphonium ion, a polyalkoxylated ammonium ion or a mixture thereof. The alkyl ammonium ion comprises tetramethyl ammonium, hexyl ammonium, butyl ammonium, bis(2-**hydroxyethyl**) dimethyl ammonium, hexyl benzyl dimethyl ammonium, benzyl trimethyl ammonium, butyl benzyl dimethyl ammonium, tetrabutyl ammonium di(2-**hydroxyethyl**) ammonium, dodecyl ammonium, octadecyl ammonium, octadecyl trimethyl ammonium, bis(2-**hydroxyethyl**) octadecyl methyl ammonium, or octadecyl benzyl dimethyl ammonium. The alkyl phosphonium ion comprises tetrabutyl phosphonium, trioctyl octadecyl phosphonium, tetraoctyl phosphonium, or octadecyl triphenyl phosphonium. The polyalkoxylated ammonium ion is derived from a hydrochloride salt of oligooxyethylene amine with a number average molecular weight of 1100 g/mol, a hydrochloride salt of oligooxypropylene amine with a number average molecular weight of 640 g/mol, a hydrochloride salt of octadecyl bis(polyoxyethylene)amine or octadecyl bis(polyoxyethylene)ammonium chloride, wherein the numbers in brackets are the total number of ethylene oxide units.

TT TT: **POLYMER CLAY** FORM ARTICLE IMPROVE GAS BARRIER  
PROPERTIES COMPRISE MELT MATRIX **POLYMER** MIXTURE TWO SWELLING  
LAYER **CLAY** MATERIAL.

=>

materials.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- (1) an article prepared from the above nanocomposite;
- (2) preparation of the **polymer-clay** nanocomposite

by

(i) preparing a mixture of at least two swellable layered **clay** materials, and

(ii) incorporating the mixture with a matrix **polymer** by melt processing the matrix **polymer** with the mixture to form a nanocomposite;

(3) an intercalate comprising a mixture of at least two swellable layered **clay** materials intercalated with a melt-processible **polymer**;

(4) an exfoliate manufactured by shearing the intercalate to form several delaminated **clay** layers and **clay** tactoids of the swellable layered **clay** materials; and

(5) preparation of an intercalate comprising

(i) **clay** materials, and

(ii) incorporating the mixture with a matrix **polymer** to form an intercalate wherein the matrix **polymer** is intercalated between adjacent layers of the swellable layered **clay** materials.

USE - The nanocomposite is used to form articles in the form of **film**, sheet, preform, profile, extruded article, moulded article or moulded container. It may be in the form of a bottle. They form articles and containers and are ideally suitable for protecting consumable products such as food, drink and medicines. They can be used in multilayer bottles and containers, including beer bottles.

ADVANTAGE - The nanocomposites have improved gas barrier properties and have improved clarity.

Dwg.0/0

FS CPI  
 FA AB; DCN  
 MC CPI: A08-R06B; A09-A09; A12-P01; B04-C03; B05-A01B; B05-A02; B05-A03A;  
 B05-A03B; B05-B01E; B05-B01F; B05-B01G; B05-B02C; B10-A22; B10-B04;  
 B11-C06; E05-G02; E05-G03A; E10-A22; E31-P02D; E31-P05

L29 ANSWER 17 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2000-423389 [36] WPIX

CR 2000-423390 [36]; 2002-680657 [73]

DNC C2000-128208

TI **Polymer clay** nanocomposite used for packaging and containers for food, drink and medicines comprising melt-processable matrix **polymer** and mixture of swellable layered **clay** materials.

DC A18 A28 A60 A92 B07 E19

IN BARBEE, R B; GILMER, J W; LAN, T; MATAYABAS, J C; PSHIHOGIOS, V;  
 PSHIHOGIOS, V

PA (EACH) EASTMAN CHEM CO; (BARB-I) BARBEE R B; (GILM-I) GILMER J W; (LANT-I)  
 LAN T; (MATA-I) MATAYABAS J C; (PSHI-I) PSHIHOGIOS V; (UYSC-N) UNIV SOUTH  
 CAROLINA

CYC 26

PI WO 2000034375 A1 20000615 (200036)\* EN 42p C08K007-00

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
 W: AU BR CA CN IN JP MX

AU 2000018370 A 20000626 (200045)

US 2002022678 A1 20020221 (200221)

C08F002-00

MX 2001005694 A1 20020501 (200368)

C08K003-34

US 6653388 B1 20031125 (200378)

C08K003-34

29 ANSWER 17 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

TI **Polymer clay** nanocomposite used for packaging and containers for food, drink and medicines comprising melt-processable matrix **polymer** and mixture of swellable layered **clay** materials.

TI **Polymer clay** nanocomposite used for packaging and containers for food, drink and medicines comprising melt-processable matrix **polymer** and mixture of swellable layered **clay** materials.

AB WO 200034375 A UPAB: 20031203

NOVELTY - A **polymer-clay** nanocomposite comprises: (i) a melt-processable matrix **polymer**, and incorporated therein (ii) a mixture of at least two swellable layered **clay** materials.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) an article prepared from the above nanocomposite; and

(b) preparation of the **polymer-clay** nanocomposite

by (i) preparing a mixture of at least two swellable layered **clay** materials; and (ii) incorporating the mixture with a matrix **polymer** by melt processing the matrix **polymer** with the mixture to form a **polymer-clay** nanocomposite.

USE - The nanocomposite is used to form articles in the form of **film**, sheet, preform, profile, extruded article, molded article or molded container. It may be in the form of a bottle. They form articles and containers and are ideally suitable for protecting consumable products such as food, drink and medicines. They can be used in multilayer bottles and containers, including beer bottles.

ADVANTAGE - The nanocomposites have improved gas barrier properties and have improved clarity.

Dwg.0/0

TECH UPTX: 20000801

TECHNOLOGY FOCUS - **POLYMERS** - Preferred **Polymer**: The melt-processable matrix **polymer** comprises a polyester, polyetherester, polyamide, polyesteramide, polyurethane, polyimide, polyetherimide, polyurea, polyamideimide, polyphenyleneoxide, phenoxy resin, epoxy resin, polyolefin, polyacrylate, polystyrene, polyethylene-co-vinyl alcohol, or a copolymer thereof, or a mixture thereof. The melt-processable matrix **polymer** may comprise poly(m-xylylene adipamide), EVOH, or a copolymer thereof, or a mixture thereof, or it comprises polyethylene terephthalate or a copolymer thereof or a mixture thereof. The nanocomposite comprises 0-25 (0.5-15, 0.5-10) wt % of layered **clay** material.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred **Clay**: The mixture of layered **clay** materials comprises natural, synthetic or modified **phyllosilicates**. It may comprise natural, synthetic or modified **montmorillonites**, **saponites**, **hectorites**, micas, vermiculites, bentonites, nontromites, beidellites, volkonkoites, magadites, kenyaites or mixtures thereof. The mixture of layered **clay** materials includes bis(2-**hydroxyethyl**)octadecyl methyl ammonium **montmorillonite** and dodecyl ammonium **montmorillonite**, octadecyl trimethyl ammonium **montmorillonite** and tetramethyl ammonium **montmorillonite**, dodecyl ammonium **montmorillonite** and tetramethyl ammonium **montmorillonite**, or dodecyl ammonium **montmorillonite** and sodium **montmorillonite**. The layered **clay** materials are free flowing powders having a cation exchange capacity of 0.9-1.5 meq/g. At least 50 % of the layered **clay**

materials are dispersed in the form of individual platelet particles and tactoids in the matrix **polymer**. The tactoids have a thickness of less than 20 nm. The mixture of layered **clay** materials is intercalated with an organic cation or a mixture of organic cations. TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Organic Cation: The mixture of layered **clay** materials is intercalated with an organic cation or a mixture of organic cations, the organic cation especially being of formula (I):

M = nitrogen or phosphorous;

X- = halide, hydroxide or acetate anion, preferably chloride and bromide; R1-R4 = organic and/or oligomeric ligands or may be **hydrogen**.

The organic **cation** is derived from an onium salt compound comprising an ammonium or phosphonium salt compound. The organic cation comprises an alkyl ammonium ion, an alkyl phosphonium ion, a polyalkoxylated ammonium ion or their mixture. The alkyl ammonium ion comprises tetramethyl ammonium, hexyl ammonium, butyl ammonium, bis(2-**hydroxyethyl**) dimethyl ammonium, hexyl benzyl dimethyl ammonium, benzyl trimethyl ammonium, butyl benzyl dimethyl ammonium, tetrabutyl ammonium di(2-**hydroxyethyl**)ammonium, dodecyl ammonium, octadecyl ammonium, octadecyl trimethyl ammonium, bis(2-**hydroxyethyl**) octadecyl methyl ammonium, or octadecyl benzyl dimethyl ammonium. The alkyl phosphonium ion comprises tetrabutyl phosphonium, trioctyl octadecyl phosphonium, tetraoctyl phosphonium, or octadecyl triphenyl phosphonium. The polyalkoxylated ammonium ion is derived from a hydrochloride salt of oligooxyethylene amine with a number average molecular weight of 1100 g/mol, a hydrochloride salt of oligooxypropylene amine with a number average molecular weight of 640 g/mol, a hydrochloride salt of octadecyl bis(polyoxyethylene(15))amine or octadecyl bis(polyoxyethylene(15))ammonium chloride, wherein the numbers in brackets are the total number of ethylene oxide units.

TT: **POLYMER CLAY** PACKAGE CONTAINER FOOD DRINK MEDICINE  
COMPRISE MELT PROCESS MATRIX **POLYMER** MIXTURE SWELLING LAYER  
**CLAY** MATERIAL.

=>

ADT WO 2000034375 A1 WO 1999-US28340 19991130; AU 2000018370 A AU 2000-18370 19991130; US 2002022678 A1 Provisional US 1998-111074P 19981207, US 1999-452821 19991201; MX 2001005694 A1 WO 1999-US28988 19991207, MX 2001-5694 20010606; US 6653388 B1 Provisional US 1998-111074P 19981207, US 1999-452318 19991201

FDT AU 2000018370 A Based on WO 2000034375; MX 2001005694 A1 Based on WO 2000034376

PRAI US 1998-111074P 19981207; US 1999-452821 19991201; US 1999-452318 19991201

IC ICM C08F002-00; C08K003-34; C08K007-00  
ICS B32B015-02; C08K009-04; C08K011-00

AB WO 2000034375 A UPAB: 20031203

NOVELTY - A **polymer-clay** nanocomposite comprises: (i) a melt-processable matrix **polymer**, and incorporated therein (ii) a mixture of at least two swellable layered **clay** materials.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- (a) an article prepared from the above nanocomposite; and
- (b) preparation of the **polymer-clay** nanocomposite

by (i) preparing a mixture of at least two swellable layered **clay** materials; and (ii) incorporating the mixture with a matrix **polymer** by melt processing the matrix **polymer** with the mixture to form a **polymer-clay** nanocomposite.

USE - The nanocomposite is used to form articles in the form of **film**, sheet, preform, profile, extruded article, molded article or molded container. It may be in the form of a bottle. They form articles and containers and are ideally suitable for protecting consumable products such as food, drink and medicines. They can be used in multilayer bottles and containers, including beer bottles.

ADVANTAGE - The nanocomposites have improved gas barrier properties and have improved clarity.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: A08-R06B; A09-A09; A12-P01; B04-C03; B04-D02; B05-B01F; B05-B01G; B05-C01; B10-A22; B10-B04; B11-C06; E05-G03A; E10-A22; E31-P02D; E31-P05

L29 ANSWER 18 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2000-557449 [51] WPIX

CR 1999-479064 [40]

DNN N2000-412485 DNC C2000-165780

TI Protective coating composition for metals and substrates such as glasses, **plastics**, semiconductors, consists of specific metal, anion, **hydrogen** of specific concentration, optionally fluoride atoms and water.

DC A14 A28 A82 G02 L03 M14 U11

IN TOMLINSON, C E

PA (NATU-N) NATURAL COATING SYSTEMS LLC

CYC 1

PI US 6083309 A 20000704 (200051)\* 11p C23C022-05

ADT US 6083309 A CIP of US 1996-723464 19961009, CIP of US 1998-13368 19980126, CIP of WO 1998-US24700 19981120, US 1999-302575 19990430

FDT US 6083309 A CIP of US 5759244, CIP of US 5952049

PRAI US 1999-302575 19990430; US 1996-723464 19961009; US 1998-13368 19980126; WO 1998-US24700 19981120

IC ICM C23C022-05

AB US 6083309 A UPAB: 20031030

NOVELTY - A protective **film** composition comprises 1.0 multiply

10-6 to moles/liter of at least one metal chosen from group IV-A metals such as titanium, zirconium, hafnium, at least one anion having an absolute charge/radius ratio of less than 0.735, **hydrogen ions**, optionally fluoride atoms at a ratio of 0-4 and water. The **hydrogen ion** concentration is sufficient to maintain the pH of the composition less than 5.

USE - For metals and other solid surfaces such as glasses, paints, **plastics**, semiconductors, microprocessors, ceramics, cements, silicon wafers, electronic components, skin, hair, and wood (all claimed).

ADVANTAGE - The composition has excellent corrosion resistance, paint adhesion, humidity resistance, sealing property and environmental protection. Improved adhesion performance is observed.

Dwg.0/0

FS CPI EPI  
 FA AB  
 MC CPI: A12-B01; A12-E07; A12-V04; G02-A05; G02-A05B; G02-A05E; G04-B02;  
     L03-G; M14-K  
     EPI: U11-A07; U11-A08A2; U11-C05D1

L29 ANSWER 19 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 2000-467825 [41] WPIX  
 DNC C2000-141057

TI Non-aqueous wellbore e.g. oil well, comprises carbon black particles, and emulsifying surfactant(s) selected from nonionic emulsifiers or Hydrophilic-Lipophilic Balance.

DC A97 E11 H01  
 IN CRADDOCK, P; SAWDON, C; TEHRANI, M; LAWSON, A; SAWDON, C A  
 PA (SOFI-N) SOFITECH NV; (DOWL) CIE SERVICES DOWELL SCHLUMBERGER; (SLMB)  
 SCHLUMBERGER CANADA LTD

CYC 86  
 PI GB 2345706 A 20000719 (200041)\* 11p C09K007-06  
 WO 2000041480 A2 20000720 (200041) EN C09K007-00  
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL  
 OA PT SD SE SL SZ TZ UG ZW  
 W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD  
 GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV  
 MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT  
 UA UG US UZ VN YU ZW  
 AU 2000026646 A 20000801 (200054) C09K007-00  
 NO 2001003500 A 20010913 (200163) C09K000-00  
 EP 1144539 A2 20011017 (200169) EN C09K007-00  
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
 RO SE SI  
 BR 2000007552 A 20011030 (200173) C09K007-06  
 CN 1336951 A 20020220 (200235) C09K007-06  
 GB 2345706 B 20030521 (200334) C09K007-06  
 MX 2001007216 A1 20021001 (200370) C09K007-06  
 AU 768714 B 20040108 (200412) C09K007-06  
 ADT GB 2345706 A GB 1999-904 19990116; WO 2000041480 A2 WO 2000-EP357  
 200000113; AU 2000026646 A AU 2000-26646 200000113; NO 2001003500 A WO  
 2000-EP357 200000113, NO 2001-3500 20010713; EP 1144539 A2 EP 2000-904926  
 200000113, WO 2000-EP357 200000113; BR 2000007552 A BR 2000-7552 200000113,  
 WO 2000-EP357 200000113; CN 1336951 A CN 2000-802827 200000113; GB 2345706 B  
 GB 1999-904 19990116; MX 2001007216 A1 WO 2000-EP357 200000113, MX  
 2001-7216 20010716; AU 768714 B AU 2000-26646 200000113  
 FDT AU 2000026646 A Based on WO 2000041480; EP 1144539 A2 Based on WO  
 20000041480; BR 2000007552 A Based on WO 2000041480; MX 2001007216 A1 Based  
 on WO 2000041480; AU 768714 B Previous Publ. AU 2000026646, Based on WO

2000041480  
 PRAI GB 1999-904 19990116  
 IC ICM C09K000-00; C09K007-00; C09K007-06  
 AB GB 2345706 A UPAB: 20000831

NOVELTY - A non-aqueous wellbore exhibiting a substantial electrical conductivity is obtained by mixing low levels of carbon black with OBM containing certain types of emulsifiers and oil-wetting agents.

DETAILED DESCRIPTION - An electrically conductive invert emulsion wellbore fluid comprises:

(i) 0.2 - 10 volume% of carbon black particles; and  
 (ii) at least one emulsifying surfactant(s) selected from nonionic emulsifiers or Hydrophilic-Lipophilic Balance (HLB) less than 12, and anionic surfactants where the counter-ion (cation) is alkali metal, ammonium or **hydrogen ions**.

INDEPENDENT CLAIMS are also included for:

(1) drilling or completing a well, where the wellbore fluid used is as claimed;  
 (2) a method for providing enhanced information from electrical logging tools, measurement-while-drilling (MWD), logging-while-drilling (LWD), geosteering etc., where the efficiency is enhanced by the improved electrical conductivity of the claimed wellbore fluids.

USE - Used for drilling or completing a well such as oil and gas wells.

ADVANTAGE - Exhibits increased electrical conductivity compared to conventional invert emulsion. Provides enhanced information from electrical logging tools, measurement while drilling, logging while drilling, geosteering etc.. The fluids provide enhanced lubricity, reduced differential sticking of drill pipe, and good stability at high temperatures.

Dwg.0/0

FS CPI  
 FA AB; DCN  
 MC CPI: A10-E01; A12-W10A; A12-W12C; E05-G03C; E05-G09; E05-S; E07-A02B;  
 E10-A07; E10-A09B; E10-B01C; E10-B02D8; E10-C02A; E10-C04L2;  
 E10-D03C; E10-E04M3; E31-K05; E31-K06; E31-N04B; E31-P04; E32-A04;  
 E33-B; E34-D01; E34-D03; H01-B06

L29 ANSWER 20 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 2000-294665 [26] WPIX  
 DNC C2000-089184  
 TI Free running methionine moldings especially granulate useful in animal feed are produced by reducing water content of suspension, molding, especially extrusion, and drying.  
 DC A97 D13 E16  
 IN BONIG, K; HASSELBACH, H J; HORNUNG, G; HUTHMACHER, K; KORFER, M; BOENIG, K; KOEFER, M; KOERFER, M  
 PA (DEGS) DEGUSSA-HUELS AG; (DEGS) DEGUSSA AG  
 CYC 31  
 PI EP 992490 A1 20000412 (200026)\* DE 8p C07C323-58  
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
 RO SE SI  
 DE 19846825 A1 20000413 (200026) C07C323-58  
 AU 9953481 A 20000413 (200028) A23K001-00  
 JP 2000116336 A 20000425 (200031) 5p A23K001-16  
 CN 1250608 A 20000419 (200036) A23K001-16  
 CA 2285820 A1 20000410 (200037) EN A23K001-22  
 BR 9904455 A 20000829 (200046) C07C323-58  
 KR 2000028898 A 20000525 (200110) C07C231-16

EP 992490 B1 20030528 (200336) DE C07C323-58  
 R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE  
 DE 59905726 G 20030703 (200345) C07C323-58

ADT EP 992490 A1 EP 1999-119279 19990928; DE 19846825 A1 DE 1998-19846825  
 19981010; AU 9953481 A AU 1999-53481 19991006; JP 2000116336 A JP  
 1999-286836 19991007; CN 1250608 A CN 1999-120844 19990930; CA 2285820 A1  
 CA 1999-2285820 19991012; BR 9904455 A BR 1999-4455 19991007; KR  
 2000028898 A KR 1999-43226 19991007; EP 992490 B1 EP 1999-119279 19990928;  
 DE 59905726 G DE 1999-505726 19990928, EP 1999-119279 19990928

FDT DE 59905726 G Based on EP 992490

PRAI DE 1998-19846825 19981010

IC ICM A23K001-00; A23K001-16; A23K001-22; C07C231-16; C07C323-58  
 ICS A23P001-12; A61K009-16; A61K031-195; B01J002-28; C07C319-26

AB EP 992490 A UPAB: 20000531  
 NOVELTY - Free-running moldings, especially extrudates, containing  
 methionine have a bulk density of 300-850 kg/m<sup>3</sup> and particle size range of  
 63-5000 μm and consist mainly, especially 60-98 weight%, of methionine.  
 DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the  
 production of the moldings.  
 USE - The product is useful in animal feed.  
 ADVANTAGE - Methionine produced by an existing process is more or  
 less crystalline, has a bulk density of 600-700 kg/m<sup>3</sup> and has a very wide  
 particle size range between less than 32 μm and about 1200 μm, which  
 greatly impairs its flow. Another granulation method involves adding  
 (in)organic powder and solvent. The present product is free-running and  
 forms little dust.  
 Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: A12-W04; A12-W09; D03-G; E10-B02D1

L29 ANSWER 21 OF 54 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:47207 HCPLUS  
 DN 134:295234  
 ED Entered STN: 19 Jan 2001  
 TI Aluminum forms in acid sulfate soils  
 AU Wang, Jianwu; Luo, Shiming; Feng, Yuanjiao  
 CS Inst. Tropical Subtropical Ecology, Canton, 510642, Peop. Rep. China  
 SO Yingyong Shengtai Xuebao (2000), 11(5), 735-740  
 CODEN: YSXUER; ISSN: 1001-9332  
 PB Yingyong Shengtai Xuebao Bianji Weiyuanhui  
 DT Journal  
 LA Chinese  
 CC 19-2 (Fertilizers, Soils, and Plant Nutrition)  
 Section cross-reference(s): 4, 53  
 AB With the method of sequential extraction, the extractable noncryst. aluminum in  
 acid sulfate soils was fractionated into exchangeable Al (ExAl), absorbed  
 inorg. hydroxy-Al (HyAl), organic complexed Al (OrAl), Fe  
 oxide-bound Al (DCBA1), interlayered Al (InAl) and noncryst.  
 aluminosilicate (NcAl), with avs. of 1.79, 2.51, 4.17, 4.14, 4.31 and 8.66  
 g Al<sub>2</sub>O<sub>3</sub> kg<sup>-1</sup>, resp. In actual acid sulfate soils, the amount of different  
 Al forms followed the order of NcAl > OrAl > InAl > DCBA1 > ExAl > HyAl,  
 but in potential acid sulfate soils, the order was NcAl > InAl > DCBA1 >  
 HyAl > OrAl > ExAl. The average of total extractable noncryst. Al was 35.57 g  
 Al<sub>2</sub>O<sub>3</sub> kg<sup>-1</sup>, which covered 25.04% of the total amount of Al in acid sulfate  
 soils. The extractable noncryst. Al in acid sulfate soils included a high  
 proportion of active aluminum, such as ExAl, HyAl and OrAl. All forms of  
 Al were closely related to the corresponding properties and ecol.

characteristics of acid sulfate soils. The strongly acidic environment of actual acid sulfate soils induced excess released Al, which was transformed to active Al and resulted in Al toxicity.

ST aluminum acid sulfate soil  
 IT Soils  
     (acid sulfate; aluminum forms and properties of)  
 IT Soil organic matter  
     (aluminum complexes; in acid sulfate soils)  
 IT Soil acidity  
     (aluminum forms and properties of acid sulfate soil)  
 IT **Silicate** minerals  
     RL: GOC (Geological or astronomical occurrence); OCCU (Occurrence)  
     (aluminum forms in acid sulfate soils)  
 IT Aluminosilicates, occurrence  
     RL: GOC (Geological or astronomical occurrence); OCCU (Occurrence)  
     (in acid sulfate soils)  
 IT 1332-37-2, Iron oxide, occurrence 12408-02-5, **Hydrogen ion**, occurrence  
     RL: GOC (Geological or astronomical occurrence); OCCU (Occurrence)  
     (aluminum forms and properties of acid sulfate soil)  
 IT 7429-90-5, Aluminum, biological studies  
     RL: ADV (Adverse effect, including toxicity); GOC (Geological or astronomical occurrence); BIOL (Biological study); OCCU (Occurrence)  
     (forms of aluminum in acid sulfate soil in relation to toxicity)  
 IT 7429-90-5D, Aluminum, **hydroxy-polymers**, intercalation  
     and organic complexes, and minerals, occurrence  
     RL: GOC (Geological or astronomical occurrence); OCCU (Occurrence)  
     (in acid sulfate soils)

L29 ANSWER 22 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:421553 HCAPLUS

DN 131:63440

ED Entered STN: 08 Jul 1999

TI Oral pharmaceutical extended release dosage form

IN Karehill, Per-Gunnar; Lundberg, Per Johan

PA Astra Aktiebolag, Swed.

SO PCT Int. Appl., 40 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K009-20

ICS A61K009-22; A61K009-52; A61K031-44; A61K031-41

CC 63-6 (Pharmaceuticals)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	-----	-----	-----	-----
PI	WO 9932091	A1	19990701	WO 1998-SE2368	19981217
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	ZA 9811239	A	19990622	ZA 1998-11239	19981208
	CA 2315261	AA	19990701	CA 1998-2315261	19981217

AU 9919912	A1	19990712	AU 1999-19912	19981217
AU 759634	B2	20030417		
BR 9814378	A	20001010	BR 1998-14378	19981217
EP 1043976	A1	20001018	EP 1998-964631	19981217
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EE 200000383	A	20011217	EE 2000-2000003831	19981217
JP 2001526211	T2	20011218	JP 2000-525083	19981217
NZ 505127	A	20030228	NZ 1998-505127	19981217
RU 2214232	C2	20031020	RU 2000-116011	19981217
US 6605303	B1	20030812	US 2000-555744	20000115
HR 2000000380	A1	20010630	HR 2000-380	20000608
NO 2000003218	A	20000822	NO 2000-3218	20000621
BG 104620	A	20010430	BG 2000-104620	20000717
PRAI SE 1997-4869	A	19971222		
WO 1998-SE2368	W	19981217		
OS MARPAT 131:63440				
AB	An enteric coated pharmaceutical extended release dosage form of an H <sub>+</sub> ,K <sub>+</sub> -ATPase inhibitor giving an extended plasma concentration profile of an H <sub>+</sub> ,K <sub>+</sub> -ATPase inhibitor. The extended plasma profile is obtained by a pharmaceutical composition which comprises a core material of a hydrophilic or hydrophobic matrix, and the H <sub>+</sub> ,K <sub>+</sub> -ATPase inhibitor and optionally pharmaceutically acceptable excipients. The dosage form may be administered once daily. Granules were prepared containing omeprazole Mg 45, POEG 195, and 95% EtOH 97 parts by weight and these granules 235 and Na stearyl fumarate 1 parts by weight were mixed and compressed into tablets. The tablets may be enterically coated.			
ST	tablet extended release; oral extended release dosage			
IT	Alcohols, biological studies			
	RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)			
	(C16-18; oral pharmaceutical extended release dosage form)			
IT	Antacids			
	Dissolution rate			
	Drug bioavailability			
	Solubilizers			
	(oral pharmaceutical extended release dosage form)			
IT	Carnauba wax			
	Glycerides, biological studies			
	Paraffin waxes, biological studies			
	Polyoxyalkylenes, biological studies			
	Waxes			
	RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)			
	(oral pharmaceutical extended release dosage form)			
IT	Drug delivery systems			
	(oral, sustained release; oral pharmaceutical extended release dosage form)			
IT	Drug delivery systems			
	(tablets, sustained-release; oral pharmaceutical extended release dosage form)			
IT	9000-83-3, ATPase			
	RL: BSU (Biological study, unclassified); BIOL (Biological study)			
	(hydrogen ion-potassium-activated, inhibitors; oral pharmaceutical extended release dosage form)			
IT	79-10-7D, Acrylic acid, polymers 540-10-3, Cetyl palmitate			

546-93-0, Magnesium carbonate 557-04-0, Magnesium stearate 1344-00-9, Sodium aluminum **silicate** 4070-80-8, Sodium stearyl fumarate 7631-86-9, Silica, biological studies 9000-65-1, Tragacanth 9002-86-2, Pvc 9002-89-5, Polyvinyl alcohol 9003-20-7, Polyvinyl acetate 9003-39-8, Pvp 9004-32-4 9004-58-4, Ethyl **hydroxyethyl** cellulose 9004-62-0, **Hydroxyethyl** cellulose 9004-64-2, **Hydroxypropyl** cellulose 9004-65-3, HPMC 9004-67-5, Methyl cellulose 10103-46-5, Calcium phosphate 11138-66-2, Xanthan 13463-67-7, Titania, biological studies **25322-68-3** 36653-82-4, Cetanol

RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

(oral pharmaceutical extended release dosage form)

IT 73590-58-6, Omeprazole 119141-88-7, S-Omeprazole 161973-10-0

RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

(oral pharmaceutical extended release dosage form)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Byk Gulden Lomberg Chemische Fabrik GmbH; WO 9702020 A1 1997 HCPLUS

(2) Depomed Inc; WO 9747285 A1 1997 HCPLUS

L29 ANSWER 23 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1999-551437 [46] WPIX

DNC C1999-161044

TI Aqueous protective coating used for protection of alloys in the aerospace industry.

DC A14 A28 A82 G02 L01 L02 M13

IN TOMLINSON, C E

PA (NATU-N) NATURAL COATING SYSTEMS LLC; (NATU-N) NATURAL COATING SYSTEMS INT LLC

CYC 85

PI WO 9946422 A1 19990916 (199946)\* EN 42P C23C022-05

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW

US 5964928 A 19991012 (199949) C23C022-05

AU 9929982 A 19990927 (200006) C23C022-05

EP 1062378 A1 20001227 (200102) EN C23C022-05

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE MX 2000008887 A1 20010301 (200170) C23C022-05

ADT WO 9946422 A1 WO 1999-US5293 19990311; US 5964928 A US 1998-41441 19980312; AU 9929982 A AU 1999-29982 19990311; EP 1062378 A1 EP 1999-911308 19990311, WO 1999-US5293 19990311; MX 2000008887 A1 MX 2000-8887 20000911

FDT AU 9929982 A Based on WO 9946422; EP 1062378 A1 Based on WO 9946422

PRAI US 1998-41441 19980312

IC ICM C23C022-05

ICS C09D005-00; C09D005-08; C23C022-06; C23C022-34; C23C022-40; C23C022-78; C23C022-82

AB WO 9946422 A UPAB: 19991110

NOVELTY - An aqueous composition for coating a substrate comprises: (a) at least one dissolved Group IV-A metal; (b) at least one anion; (c) at least one element selected from scandium, yttrium, lanthanum, actinium,

lanthanide's having atomic number of 58-71, and any combination thereof; (d) fluoride; (e) **hydrogen ion** in concentration sufficient to maintain the solution at pH less than 7.0; and (f) water.

DETAILED DESCRIPTION - (a) is a Group-IV-A metal selected from titanium, zirconium, hafnium, and combinations thereof, wherein the concentration of Group IV-a metal is 1.0 multiply 10-6 to 2.0 M in the aqueous composition; (b) the anion is selected from an oxyanion, a non-oxyanion with a charge-to-radius ratio having an absolute value of less than 0.735, and any combination thereof; (d) the fluoride atoms are present in a ratio of 0-4 fluoride atoms per Group IV-A metal plus zero to three fluoride atoms per the element (c). Also included is an INDEPENDENT CLAIM for the process for coating a substrate comprising steps: (1) applying to the substrate surface an aqueous coating composition, as above; and (2) drying or rinsing the surface.

USE - The coatings are used on substrates such as glasses, paints, cements and alloys that are prone to pitting corrosion. The coatings are useful in automotive applications and are particularly useful in the aerospace industry for protection of alloys.

ADVANTAGE - The coatings provide improved environmental protection, corrosion resistant and improved paint adhesion for metals.

Dwg.0/0

FS	CPI
FA	AB
MC	CPI: A12-B01; A12-B04B; G02-A01; G02-A02; G02-A05F; L01-G04C; L02-D14N; M13-H04
L29	ANSWER 24 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN	1999-479064 [40] WPIX
CR	2000-557449 [51]
DNN	N1999-356660 DNC C1999-140962
TI	Protective coating.
DC	A35 A82 D21 D22 E37 G02 L01 L02 L03 M13 M14 P42 U11
IN	TOMLINSON, C E
PA	(NATU-N) NATURAL COATING SYSTEMS LLC; (NATU-N) NATURAL COATING SYSTEMS INT LLC
CYC	83
PI	WO 9937829 A1 19990729 (199940)* EN 37p C23C022-05
	RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
	W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
US	5952049 A 19990914 (199944) B05D001-38
AU	9915926 A 19990809 (200001) C23C022-05
EP	1051537 A1 200001115 (200059) EN C23C022-05
	R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
MX	2000007275 A1 20021001 (200370) C23C022-05
ADT	WO 9937829 A1 WO 1998-US24700 19981120; US 5952049 A CIP of US 1996-723464 19961009, US 1998-13368 19980126; AU 9915926 A AU 1999-15926 19981120; EP 1051537 A1 EP 1998-960290 19981120, WO 1998-US24700 19981120; MX 2000007275 A1 WO 1998-US24700 19981120, MX 2000-7275 20000725
FDT	US 5952049 A CIP of US 5759244; AU 9915926 A Based on WO 9937829; EP 1051537 A1 Based on WO 9937829; MX 2000007275 A1 Based on WO 9937829
PRAI	US 1998-13368 19980126; US 1996-723464 19961009
IC	ICM B05D001-38; C23C022-05
	ICS B05D007-16; C23C022-48; C23C022-78; C23C022-82

AB WO 9937829 A UPAB: 20031030

NOVELTY - The aqueous coating composition comprises at least one of titanium, zirconium and hafnium in amount up to 10-6 to 2 M, at least one anion with a charge-to-radius ratio having an absolute value below 0.735, **hydrogen ion** in a concentration sufficient to maintain the pH below 5, and fluoride atoms in amount 0-2 per group IV-A metal ion.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a process for coating a substrate.

USE - For coating metals, anodised metals, glass, paints, **plastics**, semiconductors, microprocessors, ceramics, cements, silicon wafers, electronic components, skin, hair and wood (all claimed), especially high copper aluminium alloys used in aircraft construction.

ADVANTAGE - An environmentally safer alternative to chromium-based coatings, used for corrosion resistance, paint adhesion, humidity resistance, sealing porous surfaces and providing electrical insulation.

Dwg.0/0

FS CPI EPI GMPI

FA AB; DCN

MC CPI: A11-C04B; A12-B01; D08-B03; D08-B09; D09-E; E31-A; E31-B03C; E35-K; E35-L; G02-A05; G02-A05E; L01-G04B; L02-D14M; L03-J; L04-B04; M14-D; M14-K

EPI: U11-A08A1

L29 ANSWER 25 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1999-107525 [10] WPIX

DNN N1999-077728 DNC C1999-032283

TI Quick-setting addition and condensation-curable silicones for use as hoof pad - contain vinyl-polysiloxane, organo-hydro-polysiloxane and hydrosilylation catalyst or **hydroxy**-polysiloxane, silane or **silicate** ester and condensation catalyst, avoiding release of harmful acetic acid.

DC A12 A26 A97 B07 C07 E19 P14

PA (KETT-N) KETTENBACH FAB CHEM ERZEUGNISSE DENTAL

CYC 1

PI DE 29716871 U1 19990128 (199910)\* 43p A01L007-02

ADT DE 29716871 U1 DE 1997-29716871 19970919

PRAI DE 1997-29716871 19970919

IC ICM A01L007-02

ICS C07F007-18; C08G077-04

AB DE 29716871 U UPAB: 19990310

Addition-curable silicones (A) and condensation-curable silicones (B) are new. (A) contains (a) organopolysiloxanes with 2 vinyl groups and a viscosity of 21-200000 mPa.s of formula  $\text{CH}_2=\text{CH}-\text{SiR}_2\text{O}-(\text{SiR}_2\text{O})_n-\text{SiR}_2-\text{CH}=\text{CH}_2$  (I) and (b), as crosslinking agent, organohydropolysiloxanes with 2 or more hydrosilyl (SiH) groups, which are polyalkyl-, polyaryl-, polyalkylaryl, polyhaloalkyl, polyhaloaryl and polyhaloalkylaryl-siloxanes with not less than 2 **hydrogen** (H) atoms **bound** to silicon (Si) atoms and a SiH content of 1-15 mmole/g, (c) hydrosilylation catalysts, i.e. salts, complexes and colloidal forms of sub-group 8 transition metals. (B) contains (g) organopolysiloxane with 2 or more **hydroxyl** (OH) groups and a viscosity of 20-350000 mPa.s of formula  $\text{HO}-\text{SiR}_2-[ \text{SiR}_2 ]_n'-\text{SiR}_2-\text{OH}$  (II), (h) condensation catalyst, i.e. organo-metallic oxides or carboxylates of tin, zinc, iron, lead or cobalt, organic bases and (in)organic acids, and (i) silanes or **silicate** esters of formula  $\text{R}_{14-x}\text{Si}(\text{OR}_2)_x$  (III) with not less than 3  $\text{SiO}$ -alkyl groups as crosslinking agents; in which R = (halo)alkyl, (halo)aryl, aralkyl, cyanoalkyl or cycloalk(en)yl; n = 21-1500; n' = 20-1500; R<sub>1</sub> = halogen, **hydrogen**, alk(en)yl or alkynyl; R<sub>2</sub> =

1-18C alkyl with 0-9 oxygen (O) atom(s) in the chain. Optional components are (A) (d) organopolysiloxanes with > 2 vinyl groups, i.e. organopolysiloxanes with vinyl end groups and side chains, with a viscosity of 20-350000 mPa.s, (e) solid or liquid MQ resins containing vinyl and ethoxy groups (in which Q = the tetrafunctional SiO<sub>4</sub>/2 unit and M = the monofunctional R<sub>3</sub>SiO<sub>1</sub>/2 unit; R = vinyl, (m)ethyl or phenyl) and optionally trifunctional RSiO<sub>3</sub>/2 as T units and difunctional R<sub>2</sub>SiO<sub>3</sub>/2 as D units, which contain at least 2 vinyl groups and have a viscosity of 21-350000 mPa.s, and (f) H<sub>2</sub>-absorbing or adsorbing substance(s), i.e. finely-divided palladium (Pd) or platinum (Pt) or their alloys, optionally containing aluminosilicates; and (B) (j) desalinated or distilled water. (A) and (B) may also contain (k) optionally coated reinforcing, highly disperse and active fillers with a BET surface area not less than 50 m<sup>2</sup>/g and/or reinforcing fibrous or flaky mineral or synthetic fillers; (l) optionally coated non-reinforcing fillers, i.e. metal (hydr)oxides, metal oxide-hydroxides, mixed (hydr)oxides, calcium carbonate, kieselguhr, diatomaceous earth, **talc**, glass, **plastics**, powders based on fluoro-organic compounds, (in)organic hollow beads, massive beads, fibres, massive or hollow **plastics** particles, optionally with inorganic filler particles embedded in the surface; (m) colourants, i.e. soluble dyes, pigment dyes or coloured pastes of polysiloxane or mineral oil dye formulations; (n) desiccants, i.e. zeolites, anhydrous aluminium sulfate, molecular sieves, kieselguhr and blue (silica) gel; (o) (A) hydrosilylation inhibitors, i.e. organopolysiloxanes of formula (I; R = optionally substituted hydrocarbyl, e.g. alk(en)yl or alkenyl; n = 0-19), vinyl-substituted cyclic siloxanes, e.g. tetra-vinyltetramethylcyclotetrasiloxane or organic **hydroxyl** compounds with terminal double or triple bonds; or (B) condensation inhibitors, i.e. short-chain organopolysiloxanes of formula HO-SiR<sub>2</sub>-O-(SiR<sub>2</sub>O)<sup>n''</sup>-SiR<sub>2</sub>-OH (IV); in which n'' = 0-19); (p) compounds of organopolysiloxanes, which contain at least 2 vinyl groups and have a viscosity of 21-350000 mPa.s and the reinforcing fillers (d), which are hydrophobized in situ with these modifiers; (q) anionic, cationic, non-ionic, silicone, fluoro- or amphoteric surfactants (which may also contain functional groups), emulsifiers and stabilizers; and (r) **plasticizers** and neutral oils, i.e. trimethylsiloxy-terminated polydimethylsiloxanes, hydrocarbons, 'Vaseline' (RTM), esters, esters of higher fatty acids, epoxidized fatty acid esters, glycolic esters, higher molecular esters, phosphoric, propionic, sebacid, sulfonic, trimellitic, citric, abietic and azelaic esters, ketones, chlorohydrocarbons, polyols and polyol ethers.

USE - (A) or (B) is used as hoof pad and cartridge material for horse hoof orthopaedics (all claimed). The pads is used as cushion between the hoof and horseshoe, e.g. to assist healing in various acute and chronic conditions.

ADVANTAGE - Silicone pads that release acetic acid during vulcanization damage the hoof and frog, can lead to sepsis and also take hours to vulcanize. The present compositions set quickly, are easy to work and do not release acid. They give long-lasting pads with high tensile strength and elasticity that do not become brittle, even after long use on heavy ground.

Dwg.0/0

FS	CPI GMPI
FA	AB; DCN
MC	CPI: A06-A00E; A08-C03; A08-C08; A12-V; A12-W; B04-C03D; C04-C03D; B05-A02; C05-A02; B05-A03; C05-A03; B05-B02A3; C05-B02A3; B05-C05; C05-C05; B05-C07; C05-C07; B07-D04C; C07-D04C; B10-A09B; C10-A09B; B10-B04B; C10-B04B; B10-C02; C10-C02; B10-C04E; C10-C04E; B12-L09;

C12-L09; E05-E01; E05-E02; E05-F; E05-L; E05-M; E05-N

L29 ANSWER 26 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1999:804672 HCAPLUS  
 DN 132:52490  
 ED Entered STN: 22 Dec 1999  
 TI On the chemistry of the Keggin Al13 **polymer**: kinetics of proton-promoted decomposition  
 AU Furrer, Gerhard; Gfeller, Michael; Wehrli, Bernhard  
 CS Institute of Terrestrial Ecology, ETH Zurich, Schlieren, CH-8952, Switz.  
 SO Geochimica et Cosmochimica Acta (1999), 63(19/20), 3069-3076  
 CODEN: GCACAK; ISSN: 0016-7037  
 PB Elsevier Science Inc.  
 DT Journal  
 LA English  
 CC 53-1 (Mineralogical and Geological Chemistry)  
 AB The decomposition of the polynuclear Keggin Al13 species (Al13O4(OH)24(H2O)127+ or Al13) has been examined as a function of pH (2.06 ≤ pH ≤ 3.50), ionic strength (I = 0.1 and 1.0) and temperature (10°C ≤ T ≤ 65°C) using batch and flow-through reactors. The overall decomposition rates were found to be pos. correlated with the activity of H+, ionic strength and temperature with half-lives ranging from 350 to 43,000 s. The decomposition rate was interpreted as a function of two parallel reactions, one first-order and one second-order with respect to [H+]; an equation is derived, where R1 = k1 [H+] [Al13] and R2 = k2 [H+]2 [Al13]. For 25°C and I = 0.1, the rate consts. k1 and k2 were determined as 0.0333 ± 0.0016 M-1 s-1 and 2.59 ± 0.62 M-2 s-1, resp. The activation energies and the Arrhenius factors for an ionic strength of 1.0 were found to be Ea1 = 13.3 ± 1.9 kJ mol-1, Ea2 = 44.9 ± 4.9 kJ mol-1, A1(I=1.0) = 25.2 ± 19.2 M-1 s-1, A2(I=1.0) = 1.62 109 ± 3.12 109 M-2 s-1. While Ea1 and Ea2 do not depend on the ionic strength, the Arrhenius factors for I = 0.1 were obtained as A1(I=0.1) = 7.23 ± 0.19 M-1 s-1 and A2(I=0.1) = 1.86 108 ± 1.9 107 M-2 s-1. The apparent charge of the Al13 complex in the encounter reaction with a hydronium ion was calculated from the Arrhenius factors at various ionic strengths as 0.78. We postulate Al13 with a protonated bridging OH group as the precursor for the decomposition reaction, first-order in [H+]. The low value of the activation energy for the one-proton pathway is explained by an exothermic formation of the precursor HAl138+. The larger value of Ea2 indicates that the formation of a precursor with two adjacent protonated sites involves a pos. reaction enthalpy. The half-life of several hundred hours at pH 5 indicates that Al13 may exist in natural waters, however, it may also be subject to continuous decomposition and reformation.  
 ST aluminosilicate mineral keggin structure **polymer** proton promoted decompn  
 IT Minerals, occurrence  
 Minerals, occurrence  
 Silicate minerals  
 Silicate minerals  
 RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)  
 (aluminosilicate; chemical of the Keggin Al13 **polymer** and the kinetics of proton-promoted decomposition of minerals)  
 IT Decomposition  
 (chemical of the Keggin Al13 **polymer** and the kinetics of proton-promoted decomposition of minerals)  
 IT **Polymers**, occurrence  
 RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU

(Occurrence)

(chemical of the Keggin Al13 **polymer** and the kinetics of proton-promoted decomposition of minerals)

IT 3352-57-6, **Hydroxyl**, occurrence 7732-18-5, Water, occurrence  
 12408-02-5, **Hydrogen ion**, occurrence  
 RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)  
 (chemical of the Keggin Al13 **polymer** and the kinetics of proton-promoted decomposition of minerals)

IT 12586-59-3, Proton  
 RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)  
 (decomposition promoted by; chemical of the Keggin Al13 **polymer** and the kinetics of proton-promoted decomposition of minerals)

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (5) Casey, W; Geochim Cosmochim Acta 1992, V56, P3825 HCAPLUS
- (6) Driscoll, C; Metal Ions in Biological Systems. Vol 24: Aluminum and its Role in Biology 1988, P59 HCAPLUS
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- (9) Furrer, G; J Colloid Interface Sci 1992, V149, P56 HCAPLUS
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- (17) Lasaga, A; Kinetic Theory in the Earth Sciences 1998
- (18) Lasaga, A; Kinetics of Geochemical Processes, Rev Mineral 1981, V8, P1 HCAPLUS
- (19) Li, Y; Geochim Cosmochim Acta 1974, V38, P703 HCAPLUS
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- (22) Stadler, M; Diploma thesis University of Bern 1989
- (23) Wieland, E; Geochim Cosmochim Acta 1988, V52, P1969 HCAPLUS
- (24) Wieland, E; Geochim Cosmochim Acta 1992, V56, P3339 HCAPLUS

L29 ANSWER 27 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:709119 HCAPLUS

DN 129:343835

ED Entered STN: 09 Nov 1998

TI Synthesis of **hydrogen** silsesquioxane resins using solid catalysts

IN Hacker, Nigel P.; Krajewski, Todd; Lefferts, Scott

PA AlliedSignal Inc., USA

SO PCT Int. Appl., 41 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C08G077-08

ICS C08G077-12; C09D183-05

CC 35-6 (Chemistry of Synthetic High **Polymers**)  
Section cross-reference(s): 67

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9847942	A1	19981029	WO 1998-US7796	19980420
	W: CA, CN, IL, JP, KR, RU, SG				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5973095	A	19991026	US 1998-55516	19980406
	EP 977796	A1	20000209	EP 1998-918380	19980420
	R: DE, FR, GB, NL, IE				
	JP 2000510523	T2	20000815	JP 1998-546197	19980420
	JP 3445625	B2	20030908		
	TW 403767	B	20000901	TW 1998-87106121	19980421
PRAI	US 1997-44479P	P	19970421		
	US 1998-55516	A	19980406		
	WO 1998-US7796	W	19980420		

AB The processes of the invention provide for the steps of contacting a silane monomer with a solid catalyst in the presence of a reaction mixture that includes a nonpolar, e.g., hydrocarbon, solvent, and a polar solvent, e.g., alc. and water. The process is conducted under conditions effective to catalytically convert said silane monomer into hydridosiloxanes and organohydridosiloxanes. Recovery of the products is advantageously aided by the ease of separating the solid state catalyst from the reaction mixture. Hydridosiloxanes and organohydridosiloxanes resins produced by the processes of the invention are also provided.

ST **hydrogen** siloxane manuf solid catalyst; **ion** exchange catalyst **hydrogen** siloxane

IT Polysiloxanes, preparation  
Silsesquioxanes

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(**hydrogen**; synthesis of **hydrogen** silsesquioxane resins using solid catalysts)

IT Ion exchangers  
(synthesis of **hydrogen** silsesquioxane resins using solid catalysts)

IT **1318-93-0, Montmorillonite** ((Al1.33-1.67Mg0.33-0.67)(Ca0-1Na0-1)0.33Si4(OH)2010.xH2O), uses 9037-24-5, Amberlyst 15 9042-11-9, Amberlite CG 50 39339-85-0, Amberlyst A-26 80892-32-6, Amberlite IRP 64 118473-68-0, Nafion NR 50 144376-89-6, Amberlyst 31 174794-67-3, Amberjet 4200 215313-66-9, Amberlite I 6766 215368-99-3, Amberlyst 27 215369-17-8, Amberlite CG 420

RL: CAT (Catalyst use); USES (Uses)  
(synthesis of **hydrogen** silsesquioxane resins using solid catalysts)

IT 153315-81-2P, Trichlorosilane hydrolytic **polymer**, ladder str 158391-74-3P, Methyltrichlorosilane-trichlorosilane hydrolytic copolymer 158391-75-4P 159655-38-6P, Trichlorosilane hydrolytic **polymer** 171773-83-4P, Triethoxysilane **polymer** 182575-72-0P 182575-73-1P 197086-94-5P 215167-40-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(synthesis of **hydrogen** silsesquioxane resins using solid catalysts)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Bank, H; US 5010159 A 1991 HCAPLUS  
 (2) Hitachi; GB 2199817 A 1988 HCAPLUS

L29 ANSWER 28 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1997:556111 HCAPLUS  
 DN 127:152953  
 ED Entered STN: 01 Sep 1997  
 TI Oral pharmaceutical dosage forms comprising a proton pump inhibitor and a prokinetic agent  
 IN Depui, Helene; Hallgren, Agneta  
 PA Astra Aktiebolag, Swed.; Depui, Helene; Hallgren, Agneta  
 SO PCT Int. Appl., 53 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A61K045-06  
 ICS A61K031-44; A61K031-445; A61K009-20; A61K009-26; A61K009-48  
 CC 63-6 (Pharmaceuticals)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9725065	A1	19970717	WO 1996-SE1736	19961220
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2214033	AA	19970717	CA 1996-2214033	19961220
	AU 9713240	A1	19970801	AU 1997-13240	19961220
	AU 712572	B2	19991111		
	BR 9607344	A	19971230	BR 1996-7344	19961220
	EP 814840	A1	19980107	EP 1996-944725	19961220
	EP 814840	B1	20021120		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CN 1183049	A	19980527	CN 1996-193607	19961220
	JP 11501949	T2	19990216	JP 1996-525130	19961220
	IL 121652	A1	20020310	IL 1996-121652	19961220
	AT 228010	E	20021215	AT 1996-944725	19961220
	PT 814840	T	20030430	PT 1996-96944725	19961220
	ES 2185816	T3	20030501	ES 1996-944725	19961220
	ZA 9610938	A	19970708	ZA 1996-10938	19961230
	US 6132771	A	200001017	US 1997-750936	19970213
	NO 9704070	A	19971006	NO 1997-4070	19970904
PRAI	SE 1996-72	A	19960108		
	WO 1996-SE1736	W	19961220		
AB	An oral pharmaceutical dosage form comprises a proton pump inhibitor and $\geq 1$ gastroesophageal motility-enhancing agents in a fixed formulation, wherein the proton pump inhibitor is protected by an enteric coating layer. The fixed formulation is in the form of multilayered tablets, capsules, or (most preferred) multiple-unit tableted dosage forms. The fixed formulation is especially useful in treatment of disorders associated with gastroesophageal reflux diseases. Thus, 10.2 kg core material from a mixture of Mg omeprazole 5, sugar sphere seeds 10,				

**hydroxypropylmethylcellulose** 0.75, and water 20.7 kg was covered with a separating layer comprising **hydroxypropylcellulose** 1.02, **talc** 1.75, Mg stearate 0.146, and water 21.4 kg in a fluidized bed. To 11.9 kg of this material, an enteric coating layer comprising methacrylic acid copolymer (30% suspension) 19.8, tri-Et citrate 1.79, mono- and diglycerides 0.297, polysorbate 80 0.03, and water 11.64 kg was applied by spraying. An overcoating layer containing **hydroxypropylmethylcellulose** 0.238, Mg stearate 0.007, and water 6.56 kg was applied to 20 kg of the enteric-coated pellets. The overcoated pellets 41.2 were then dry mixed with mosapride citrate dihydrate 23.4, microcryst. cellulose 138.1, crosslinked PVP 2.9, and Na stearyl fumarate 0.29 g and the mixture was compressed into tablets each containing 10 mg omeprazole and 30 mg mosapride; the tablets were covered with a film comprising **hydroxypropylmethylcellulose** 250, **PEG**-6000 62.5, **TiO2** 62.5, and **H2O2** 0.75 g/10 kg tablets.

ST stomach esophagus motility proton pump inhibitor; oral omeprazole mosapride gastroesophageal reflux

IT Stomach

(acid secretion by and motility of; oral pharmaceutical dosage forms comprising proton pump inhibitor and prokinetic agent for gastroesophageal reflux treatment)

IT Drug delivery systems

(capsules, enteric-coated; oral pharmaceutical dosage forms comprising proton pump inhibitor and prokinetic agent for gastroesophageal reflux treatment)

IT Digestive tract

(gastroesophageal reflux; oral pharmaceutical dosage forms comprising proton pump inhibitor and prokinetic agent for gastroesophageal reflux treatment)

IT Esophagus

(motility of; oral pharmaceutical dosage forms comprising proton pump inhibitor and prokinetic agent for gastroesophageal reflux treatment)

IT Secretion (process)

(oral pharmaceutical dosage forms comprising proton pump inhibitor and prokinetic agent for gastroesophageal reflux treatment)

IT Drug delivery systems

(oral; oral pharmaceutical dosage forms comprising proton pump inhibitor and prokinetic agent for gastroesophageal reflux treatment)

IT Drug delivery systems

(tablets, enteric-coated; oral pharmaceutical dosage forms comprising proton pump inhibitor and prokinetic agent for gastroesophageal reflux treatment)

IT 12408-02-5, **Hydrogen ion**, biological studies

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(gastric secretion of, inhibitors of; oral pharmaceutical dosage forms comprising proton pump inhibitor and prokinetic agent for gastroesophageal reflux treatment)

IT 73590-58-6, Omeprazole 81098-60-4, Cisapride 95382-33-5 103577-45-3, Lansoprazole 112885-41-3, Mosapride 112885-42-4, Mosapride citrate

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(oral pharmaceutical dosage forms comprising proton pump inhibitor and prokinetic agent for gastroesophageal reflux treatment)

L29 ANSWER 29 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
AN 1997-221761 [20] WPIX

DNC C1997-071107  
 TI Preparation of vinyl pyridine(s) - by vapour phase contact catalyst reaction of pyridine ethanol(s) in presence of catalyst as dehydrating agent.  
 DC A41 E13  
 PA (KOEI) KOEI CHEM IND CO LTD  
 CYC 1  
 PI JP 09067345 A 19970311 (199720)\* 5p C07D213-127  
 ADT JP 09067345 A JP 1995-246771 19950830  
 PRAI JP 1995-246771 19950830  
 IC ICM C07D213-127  
 ICS B01J029-04  
 ICA C07B061-00; C07D213-30  
 AB JP 09067345 A UPAB: 19970516  
 Preparation of vinylpyridines comprises vapour-phase contact catalytic reaction of pyridine ethanol(s) in the presence of a catalyst acting as a dehydration agent.

Pref. the present reaction is carried out in the presence of a co-catalyst as well as the catalyst. The catalyst is selected from metal oxides, crystalline alumino **silicate** and/or metal phosphates. The co-catalyst is selected from metals and/or phosphorus. The metal oxides ae Si, Al, Zr, Nb, Ti, Zn, Sn, Mo, W, alkaline earth metals and/or rare earth elements. The aluminosilicate is mordenite, X-type zeolite, Y-type zeolite, A-type zeolite, L-type zeolite, ZSM-5, ZSM-11 and/or zeolite whose cation is ion-exchanged by an alkali metal ion, alkaline earth metal **ion** or **hydrogen ion**. The metal phosphate is zirconium phosphate or niobium phosphate. The pyridine ethanol is a cpd. having 2-**hydroxyethyl** gp. at 2-, 4- or 6-position of pyridine nucleus.

USE - Used as materials for vinylpyridine-based **polymers**.

ADVANTAGE - Vinylpyridines are prepared in high yield by continuous reaction, which attains high productivity.

Dwg.0/0

FS CPI  
 FA AB; DCN  
 MC CPI: A01-D01; E07-D04B; N01-A; N01-B; N01-D02; N03; N06-B  
  
 L29 ANSWER 30 OF 54 JICST-EPlus COPYRIGHT 2004 JST on STN  
 AN 970149954 JICST-EPlus  
 TI Flocculation of **Kaolin** suspension with Graft Copolymers of Methyl Acrylate-g-(2-Vinylpyridinium bromide-co-Vinylalcohol).  
 AU SERITA HAJIME  
 CS Akita Univ., Min. Coll.  
 SO Sozai Busseigaku Zasshi (Journal of the Society of Materials Engineering for Resources of Japan), (1996) vol. 9, no. 2, pp. 57-63. Journal Code: L0710A (Fig. 9, Tbl. 1, Ref. 18)  
 CODEN: SBZAEU; ISSN: 0919-9853  
 CY Japan  
 DT Journal; Article  
 LA Japanese  
 STA New  
 AB Graft copolymers of methyl acrylate-g-(2-vinylpyridinium bromide-co-vinylalcohol) were prepared by the reaction of (2-vinylpyridinium bromide-co-vinylalcohol) with methyl acrylate. The flocculating abilities for 5% aqueous **kaolin** suspension were investigated in the relation to the structures by measuring the sedimentation rate, the sedimentation volume, and the turbidity. The results obtained are as follows. 1) For every graft copolymer, the optimum copolymer concentration required to flocculate 5% **kaolin**

suspension was 6-50ppm, and under these conditions, the electrophoretic mobility of **kaolin** was relatively small. 2) Suitable mole fraction of vinylalcohol(FVA) and that of ionization group(FI2VP) in copolymer were 0.15 and 0.25 respectively. 3) Flocculating action increased with increase of mole fraction of methyl acrylate(FMA) in copolymer. 4) Flocculating ability of each copolymer increased with increasing inherent viscosity. 5) Suitable pH values for the flocculating action were in the range of about 2-12. 6) An isoelectric point was found in the vicinity of pH 4 and optimum flocculating ability was observed in the pH range of 4-10. 7) Copolymers were more effective for typical commercial flocculants such as Sumifloc-FC, PAS-A, and Himoloc Neo 600.

(author abst.)

CC SC03050W (628.34)  
 CT graft copolymer; **polymer** coagulant; aggregation; isoelectric point; polyelectrolyte; electrophoresis; **kaolin**; suspension(disperse system); nitrogen heterocyclic compound; vinyl compound; enol; aliphatic alcohol; unsaturated alcohol; aliphatic carboxylic acid; unsaturated carboxylic acid; carboxylate(ester)  
 BT copolymer; **polymer**; flocculant; **polymeric** agent; functional **polymer**; macromolecule; **hydrogen** **ion** concentration; acidity; degree; concentration(ratio); electrolyte; matter; **clay**; clastic sediment; sediment; soil; disperse system; heterocyclic compound; olefin compound; **hydroxy** compound; alcohol; carboxylic acid; ester

L29 ANSWER 31 OF 54 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:438212 HCPLUS  
 DN 122:197023  
 ED Entered STN: 24 Mar 1995  
 TI Osmotic devices having vapor-permeable coatings  
 IN Cussler, Edward L.; Herbig, Scott M.; Smith, Kelly L.; Van, Eikeren Paul  
 PA USA  
 SO PCT Int. Appl., 41 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A61K009-00  
 CC 63-6 (Pharmaceuticals)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9503033	A1	19950202	WO 1994-IB114	19940519
	W: CA, FI, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2167395	AA	19950202	CA 1994-2167395	19940519
	EP 711146	A1	19960515	EP 1994-914528	19940519
	EP 711146	B1	20000906		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
	JP 08507087	T2	19960730	JP 1994-505035	19940519
	JP 2853903	B2	19990203		
	AT 196077	E	20000915	AT 1994-914528	19940519
	ES 2149874	T3	20001116	ES 1994-914528	19940519
	PT 711146	T	20010131	PT 1994-94914528	19940519
	US 5827538	A	19981027	US 1996-571980	19960117
	FI 9600265	A	19960119	FI 1996-265	19960119
PRAI	US 1993-96144	A	19930722		
	WO 1994-IB114	W	19940519		
AB	An osmotic device comprising a hydrophilic formulation including a				

beneficial agent and if needed, an osmagent, surrounded by a wall, provides the controlled-release of a beneficial agent to an aqueous environment following the imbibement of water vapor. The wall is formed at least in part of a semipermeable hydrophobic membrane having an average pore size 0.1-30  $\mu\text{m}$ . The pores are substantially filled with a gas phase. The hydrophobic membrane is permeable to water in the vapor phase and impermeable to an aqueous medium at a pressure  $\leq 100$  Pa. The beneficial agent is released, for example, by osmotic pumping or osmotic bursting upon imbibement of sufficient water vapor into the device core. These devices minimize incompatibilities between the beneficial agent and **ions** (such as **hydrogen** or **hydroxyl**) or other dissolved or suspended materials in the aqueous medium, since contact between the beneficial agent and the aqueous medium does not occur until after the beneficial agent is released. This results from the semipermeable membrane's selective permeability for water vapor. In addition, the high water fluxes facilitate the delivery of beneficial agents having low solubilities, and the delivery of high dosages of beneficial agents. For example, capsules having vapor-permeable membrane walls were made using a **polymer** solution containing polyethylene 17 and **talc** 0.085% dissolved in olive oil and sealed with a solution containing cellulose acetate 15, ethanol 28, Coomassie Blue G-250 dye 0.1% dissolved in acetone.

ST osmotic device vapor permeable coating  
 IT Carbohydrates and Sugars, biological studies  
 Waxes and Waxy substances  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (osmotic devices having vapor-permeable coatings)  
 IT Pharmaceutical dosage forms  
 (capsules, osmotic, controlled-release, osmotic devices having  
 vapor-permeable coatings)  
 IT Pharmaceutical dosage forms  
 (tablets, osmotic-release, osmotic devices having vapor-permeable  
 coatings)  
 IT 79-10-7D, Acrylic acid, esters, **polymers** 90-82-4,  
 Pseudoephedrine 151-21-3, Sodium lauryl sulfate, biological studies  
 9002-84-0, Polytetrafluoroethylene 9002-88-4, Polyethylene 9003-39-8,  
 PVP 9004-32-4, Sodium carboxymethyl cellulose 9004-35-7, Cellulose  
 acetate 9004-57-3, Ethyl cellulose 9004-65-3, **Hydroxypropyl**  
 methyl cellulose 24937-79-9, Polyvinylidene fluoride 25322-68-3  
 , **Polyethylene glycol** 29094-61-9, Glipizide  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (osmotic devices having vapor-permeable coatings)

L29 ANSWER 32 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:38253 HCAPLUS

DN 124:66649

ED Entered STN: 19 Jan 1996

TI Oral sustained-release preparation

IN Posch, Werner; Reiter, Franz Josef

PA Lannacher Heilmittel Ges.m.b.H., Austria

SO Eur. Pat. Appl., 7 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM A61K009-22

CC 63-6 (Pharmaceuticals)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	EP 682945	A2	19951122	EP 1995-890095	19950518
	EP 682945	A3	19960703		
	EP 682945	B1	19990609		
	R: CH, DE, DK, ES, GB, IT, LI, NL, SE				
AT	9401027	A	19971215	AT 1994-1027	19940518
AT	403988	B	19980727		
ES	2132589	T3	19990816	ES 1995-890095	19950518
PRAI	AT 1994-1027		19940518		

AB An oral sustained-release pharmaceutical formulation for uniform release of a drug during its passage through the digestive tract contains a mixture of 10-60 weight% polyacrylates showing pH-dependent retardation of drug release and 3-30 weight% polyacrylates showing pH-independent retardation. Thus, a mixture of morphine.HCl.3H<sub>2</sub>O 15.00, lactose.H<sub>2</sub>O 12.00, H<sub>2</sub>O 5.00, and Eudragit NE 30D [Et acrylate/Me methacrylate (2:1) copolymer] 10.00 kg was granulated and dried. To these granules 30.00 were added Eudragit L 100-55 [Et acrylate/methacrylic acid (1:1) copolymer] 34.00, Eudragit RSPM [Et acrylate/Me methacrylate(trimethylammoniummethyl methacrylate chloride (1:2:0.1) copolymer] 7.50, **hydroxypropylmethylcellulose** 4000 3.00, and Mg stearate 0.50 kg. The mixture was pressed into 150-mg tablets which were coated with a **film** prepared from a mixture of TiO<sub>2</sub> 785.0, PEG-6000 715.0, **talc** 1952.0, **hydroxypropylmethylcellulose** 570.0m antifoam 3.0, 30% suspension of Eudragit NE 30D 2150.0, yellow pigments 330.0, and H<sub>2</sub>O 10,285.0 g. The tablets released 22 and 17% of the morphine.HCl in the 1st and 2nd h in artificial gastric juice (pH 1.2), and 31, 20, and 10% of the morphine.HCl after transfer to artificial intestinal juice (pH 6.8) over the following 3 2-h periods, resp.

ST sustained release tablet polyacrylate pH; morphine sustained release tablet polyacrylate pH

IT Digestive tract  
(pH variations in, drug release in relation to; oral sustained-release preparation)

IT Pharmaceutical dosage forms  
(capsules, oral sustained-release preparation)

IT Pharmaceutical dosage forms  
(tablets, oral sustained-release preparation)

IT 12408-02-5, **Hydrogen ion**, biological studies

RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(drug release dependence on; oral sustained-release preparation)

IT 52-26-6, Morphine hydrochloride 57-27-2, Morphine, biological studies  
33286-22-5, Diltiazem hydrochloride 42399-41-7, Diltiazem

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(oral sustained-release preparation)

IT 9004-65-3, **Hydroxypropylmethylcellulose** 9010-88-2, Eudragit NE  
30D 25212-88-8, Eudragit L 100-55 33434-24-1, Eudragit RSPM

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(oral sustained-release preparation)

L29 ANSWER 33 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1996-030546 [03] WPIX

DNC C1996-010521

TI Detergent compsns. for laundry use - contain oleoyl sarcosinate and polymeric dispersing agent, e.g. **polyethylene glycol**, has good cleaning performance and colour care properties.

DC A97 D25 E19

IN VANDER, MEER J M; WILLMAN, K W; VANDERMEER, J M

PA (PROC) PROCTER & GAMBLE CO  
 CYC 26  
 PI WO 9533028 A1 19951207 (199603)\* EN 38p C11D001-10  
 RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE  
 W: AU CA CN JP KR MX VN  
 US 1514 H 19960102 (199607) 14p C11D001-18  
 AU 9526539 A 19951221 (199612) C11D001-10  
 ZA 9504398 A 19960327 (199619) 36p C11D000-00  
 EP 763086 A1 19970319 (199716) EN C11D001-10  
 R: AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE  
 EP 763086 B1 19991208 (200002) EN C11D001-10  
 R: AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE  
 DE 69513820 E 20000113 (200010) C11D001-10  
 ADT WO 9533028 A1 WO 1995-US6755 19950530; US 1514 H US 1994-252126 19940601;  
 AU 9526539 A AU 1995-26539 19950530; ZA 9504398 A ZA 1995-4398 19950530;  
 EP 763086 A1 EP 1995-921466 19950530, WO 1995-US6755 19950530; EP 763086  
 B1 EP 1995-921466 19950530, WO 1995-US6755 19950530; DE 69513820 E DE  
 1995-613820 19950530, EP 1995-921466 19950530, WO 1995-US6755 19950530  
 FDT AU 9526539 A Based on WO 9533028; EP 763086 A1 Based on WO 9533028; EP  
 763086 B1 Based on WO 9533028; DE 69513820 E Based on EP 763086, Based on  
 WO 9533028  
 PRAI US 1994-252126 19940601  
 REP DE 4303176; FR 2278761; WO 9206153  
 IC ICM C11D000-00; C11D001-10; C11D001-18  
 ICS C11D003-37  
 AB WO 9533028 A UPAB: 19960122  
 A detergent compsn. comprises (a) at least 0.1 % of oleoyl sarcosinate of  
 formula (I) M = H or a cationic moiety; and (b) 0.05-15 % of a polymeric  
 dispersing agent consisting of polycarboxylate, **polyethylene**  
**glycol** polymer and/or polyaspartate.  
 USE - The compsn. is for laundry use.  
 ADVANTAGE - Cpd. (I) provide good cleaning performance and are  
 soluble in the wash solution when incorporated into compsns., especially  
 granular compsns.. The compsns. provide good **clay** soil removal,  
 colour care for dyed fabrics and mildness for handwashing.  
 Dwg.0/0  
 FS CPI  
 FA AB; GI; DCN  
 MC CPI: A12-W12A; D11-A01A; D11-A03; D11-B03; D11-B19; D11-D01; D11-D02;  
 E10-C04F  
 L29 ANSWER 34 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 1995-404065 [51] WPIX  
 CR 1986-264704 [40]; 1987-264102 [37]; 1990-282194 [37]; 1990-348447 [46];  
 1991-317654 [43]; 1994-199572 [24]  
 DNC C1995-173542  
 TI Hydrido-siloxane-based ceramic precursors and prods. preparation - by reacting  
 hydrido-siloxane with a silicon-**hydrogen** bond containing  
**polymer** and reacting prod. with **hydroxyl**-containing cpd...  
 DC A26 A35 L02 M22 P42  
 IN BLUM, Y D; GUSMAN, M I; JOHNSON, S M  
 PA (STRI) SRI INT  
 CYC 20  
 PI WO 9530632 A1 19951116 (199551)\* EN 65p C04B035-634  
 RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE  
 W: CA JP  
 EP 759019 A1 19970226 (199714) EN C04B035-634  
 R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

US 5635250 A 19970603 (199728) 20p B05D003-02  
 JP 2002514996 W 20020521 (200236) 53p C04B035-571

ADT WO 9530632 A1 WO 1995-US5877 19950510; EP 759019 A1 EP 1995-919139  
 19950510, WO 1995-US5877 19950510; US 5635250 A CIP of US 1985-727415  
 19850426, CIP of US 1986-908685 19860304, CIP of US 1986-12874 19861201,  
 Cont of US 1989-341722 19890421, CIP of US 1992-908214 19920702, CIP of US  
 1994-240153 19940510, US 1995-437722 19950509; JP 2002514996 W JP  
 1995-529199 19950510, WO 1995-US5877 19950510

FDT EP 759019 A1 Based on WO 9530632; US 5635250 A CIP of US 4612383, CIP of  
 US 4788309, CIP of US 5008422, Cont of US 5128494, CIP of US 5319121; JP  
 2002514996 W Based on WO 9530632

PRAI US 1995-437722 19950509; US 1994-240153 19940510; US 1985-727415  
 19850426; US 1986-908685 19860304; US 1986-12874 19861201; US  
 1989-341722 19890421; US 1992-908214 19920702

IC ICM B05D003-02; C04B035-571; C04B035-634  
 ICS C04B035-14; C04B035-622

AB WO 9530632 A UPAB: 20020610

Ceramic materials preparation comprises: (a) providing a hydridosiloxane (I) starting material **polymer** containing a plurality of Si-H bonds, such that at least 20% of the Si atoms are bound to H; (b) reacting (I) with a **OH**-containing cpd. of formula (II) to give a ceramic precursor in which H atoms in (I) are replaced with O-containing pendant OR' gps., or O-containing bridging moieties: (II) R'-**OH**; R' = H, 1-10C alkyl or 1-2 ring aryl, opt. substd. with one or more **OH**, lower alkyl, halogen, silyl or amino gps.; silyl opt. containing additional **OH** gps.; a metal opt. bound to one or more ligands and/or containing additional **OH** gps.; (c) mixing the ceramic precursor with a metal powder and/or a ceramic powder, to provide a preceramic mixture; (d) curing the preceramic at 20-2500 C; and (e) pyrolysing the resulting cured preceramic mixts. at at least 5000 C.

USE - The process is useful for preparation of a wide variety of ceramic articles, e.g. fibres, **films** and shaped prods. containing e.g. silica, silicon oxynitrides, silicon carbide or metal **silicate**, especially heat-stable, wear-, erosion- abrasion- and corrosion-resistant coatings having desirable electronic and optical properties. The coatings are especially useful in gas turbine engines; and can be used to make dielectric materials for capacitors, or insulating coatings in the electronics industry. The process can also be used for the preparation of mullite (3Al2O3.2SiO2) incorporating Al particles (claimed), which are used for high temperature structural components, as matrix material for composites, for electronic substrates and packaging, and for infrared windows.

ADVANTAGE - The gels or ceramic precursors are highly processable and give the desired ceramic material in very high yields on pyrolysis. Coatings can be formed in a conventional furnace, in contrast to costly and time-consuming prior chemical vapour deposition methods. Spun fibres produced from the materials do not suffer from the fusibility problems of prior art. High-density mullite can be prepared simply and straightforward, without shrinkage occurring during pyrolysis.

Dwg.0/0

FS CPI GMPI

FA AB

MC CPI: A06-A00A; A06-A00D; A08-M01D; A10-E05; A10-E22A; A11-A03; A11-C02B;  
 A12-W12G; L02-A02; L02-A04; M22-G03K

L29 ANSWER 35 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1993:201133 HCAPLUS  
 DN 118:201133

ED Entered STN: 14 May 1993  
 TI Chemical gating of a molecular bilayer rectifier at **clay**-modified electrodes  
 AU Rong, Daiping; Mallouk, Thomas E.  
 CS Dep. Chem. Biochem., Univ. Texas, Austin, TX, 78712-1167, USA  
 SO Inorganic Chemistry (1993), 32(8), 1454-9  
 CODEN: INOCAJ; ISSN: 0020-1669  
 DT Journal  
 LA English  
 CC 72-2 (Electrochemistry)  
 Section cross-reference(s): 66, 76  
 AB Conductive SnO<sub>2</sub> electrodes modified with a 1-2 monolayer thick coating of a cationic silane bind Al<sub>13</sub>O<sub>4</sub>(OH)283+-pillared **montmorillonite**. The cationic **polymer** provides binding sites, which are electrochem. accessible to the SnO<sub>2</sub> electrode, for Fe(III) tetrakis(4-sulfonatophenyl)porphyrin (FeTPPS3-) anions. Electroactive cations such as Ru(NH<sub>3</sub>)<sub>6</sub><sup>3+</sup> and Os(bpy)<sub>2</sub>Cl<sup>+</sup> (bpy = 2,2'-bipyridine) adhere to the **clay** surface, at sites too remote for direct electron transfer with the electrode, and oxidation/reduction of these ions is mediated by FeTPPS3-. The axial ligation of the metalloporphyrin anions changes reversibly with solution pH, and in weakly basic solns. electron transfer between these anions and the electrode is very slow. Cyclic voltammetry and UV-visible spectroscopy show that the FeTPPS3- contained within the silane **film** behaves as a pH-sensitive gate for electron transfer to and from the cations bound to the **clay** surface. When the formal potential of the **clay**-bound cation is sufficiently different from that of FeTPPS3-, proton-gated current rectification can be observed electrochem.  
 ST tin dioxide electrode iron sulfonatophenylporphyrin modification; siloxane tin oxide electrode modification; osmium bipyridine pyridine complex redox electrochem; ruthenium bipyridine complex redn oxidn electrochem; rectification proton gating electrode modification; electron transfer catalytic electrode modification  
 IT Electric rectification  
     (electrochem., in redox reactions of ruthenium and osmium complexes on tin dioxide electrode modified with **clay** and exchanged with iron-porphyrin complex)  
 IT Ion exchange  
     (for iron-sulfonatophenylporphyrin complex, on **clay**-modified tin dioxide electrode, with ruthenium and osmium complexes, rectification in relation to)  
 IT Electron exchange and Charge transfer  
 Oxidation, electrochemical  
 Reduction, electrochemical  
     (of ruthenium and osmium complexes on tin dioxide electrode modified with **clay** and exchanged with iron-porphyrin complex, rectification in relation to)  
 IT Electrodes  
     (tin dioxide, with **montmorillonite**, bonded by siloxanes)  
 IT Oxidation catalysts  
 Reduction catalysts  
     (electrochem., iron-sulfonatophenylporphyrin complex, on **clay**-modified tin dioxide electrode, for ruthenium and osmium complexes)  
 IT Redox reaction  
     (electrochem., of ruthenium and osmium complexes on tin dioxide electrode modified with **clay** and exchanged with iron-porphyrin complex, rectification in relation to)

IT 64-19-7, Acetic acid, uses 127-09-3, Sodium acetate  
 RL: USES (Uses)  
 (electrochem. redox reactions of ruthenium and osmium complexes on tin dioxide electrode modified with **clay** and exchanged with iron-porphyrin complex in solns. containing)

IT 18282-10-5, Tin dioxide  
 RL: PRP (Properties)  
 (electrode, modified with **montmorillonite** and iron-sulfonatophenylporphyrin complex bonded by siloxanes, redox reactions and rectification at)

IT 12408-02-5, Atomic **hydrogen ion**(1+), reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (gating of, in electrochem. redox reactions of ruthenium and osmium complexes on tin dioxide electrode modified with **clay** and exchanged with iron-porphyrin complex)

IT 118476-73-6  
 RL: PRP (Properties)  
 (iron-sulfonatophenylporphyrin complex modification of **montmorillonite** bonded with tin dioxide electrode using)

IT 14282-91-8 18943-33-4 73741-08-9 147106-75-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (redox reactions of, electrochem., on tin dioxide electrode modified with **clay** and exchanged with iron-sulfonatophenylporphyrin complex, rectification in relation to)

IT 83006-36-4 91042-29-4  
 RL: PRP (Properties)  
 (tin dioxide electrode modified with **montmorillonite** and , electrochem. redox reactions of osmium and ruthenium complexes on, rectification in)

IT 1318-93-0, **Montmorillonite**, uses  
 RL: USES (Uses)  
 (tin dioxide electrode modified with, and exchanged with iron-sulfonatophenylporphyrin complex, redox reaction on)

L29 ANSWER 36 OF 54 JICST-EPlus COPYRIGHT 2004 JST on STN  
 AN 930663342 JICST-EPlus  
 TI Flocculation of **Kaolin** Suspension with Graft Copolymers of Ionen.  
 AU SERITA HAJIME; MURAI KOICHI  
 CS Akita Univ., Mining College  
 SO Kobunshi Ronbunshu, (1993) vol. 50, no. 7, pp. 565-570. Journal Code: G0122A (Fig. 8, Tbl. 1, Ref. 16)  
 CODEN: KBRBA3; ISSN: 0386-2186  
 CY Japan  
 DT Journal; Article  
 LA Japanese  
 STA New  
 AB 2-**Hydroxy**-3-ionen-acrylamide (graft copolymers) prepared by the reaction of 2-**hydroxy**-3-ionen with acrylamide. Their flocculating abilities for 5% aqueous **kaolin** suspension were linked to their structures by measuring the sedimentation rate, the sedimentation volume and the turbidity. The results obtained were as follows. 1) For every **polymer**, the optimum copolymer concentrations required to flocculate 5% **kaolin** suspension were 20-50 ppm. 2) Flocculating action increased with the increase of graft chain length (F2) and of molecular weight of **polymer**. 3) Suitable pH values for the flocculating action were in the range of about 2-12 and the best flocculating effects were obtained at the pH value of

the isoelectric point. 4) An isoelectric point of **kaolin** particles was observed for the concentration of approximately 20 ppm **polymer**. 5) Copolymers were more effective for flocculation than typical commercial flocculants such as Sumifloc FC, PAS-A and Himoloc Neo 600. (author abst.)

CC CG02013S; SC03050W (544.232-14.03; 628.34)  
 CT aliphatic amine; aliphatic chlorine compound; polyacrylamide; graft copolymer; **kaolin**; suspension(disperse system); aggregation; **polymer** coagulant; radical **polymerization**; surface potential; settling velocity; turbidity(ratio); pH dependence; zeta-potential; isoelectric point; **polymer**; quaternary ammonium; ionene; alcohol  
 BT amine; aliphatic halogen compound; organohalogene compound; organochlorine compound; acrylic resin; thermoplastic; **plastic**; copolymer; **clay**; clastic sediment; sediment; soil; disperse system; flocculant; **polymeric** agent; functional **polymer**; macromolecule; **polymerization**; chemical reaction; electric potential; velocity; optical property; degree; dependence; electrokinetic phenomenon; interfacial electrical phenomenon; phenomenon; **hydrogen ion** concentration; acidity; concentration(ratio); onium compound; polyelectrolyte; electrolyte; matter; **hydroxy** compound

L29 ANSWER 37 OF 54 JICST-EPlus COPYRIGHT 2004 JST on STN  
 AN 930410067 JICST-EPlus  
 TI Properties of Aqueous Suspensions of Sodium Fluor-Tetrasilicic Mica. (1). Effects of **Hydrogen Ion**-Exchange on the Dispersion State and Chemical Stability.  
 AU HAYASHI TSUYOSHI; ASAGA KIYOSHI  
 SONG C T  
 SUGIMORI KEN'ICHIRO  
 DAIMON MASAKI  
 CS Nishitokyokagakudai  
 Topy Industries, Ltd.  
 Tokyo Inst. of Technology, Faculty of Engineering  
 Dan Kook Univ., Choongnam, KOR  
 SO Nendo Kagaku (Journal of the Clay Science Society of Japan), (1993) vol. 32, no. 4, pp. 272-280. Journal Code: G0435A (Fig. 9, Tbl. 1, Ref. 25)  
 CODEN: NEKAAJ; ISSN: 0470-6455  
 CY Japan  
 DT Journal; Article  
 LA Japanese  
 STA New  
 AB Effects of ion-exchange reaction of interlayer Na by hydrogen ion in aqueous suspensions of sodium fluor-tetrasilicic mica(Na-TSM) on the dispersion state and chemical stability of it were studied. Na-TSM suspensions with appropriate solid concentration form stable dispersion, where a part of Na ions of Na-TSM diffuse into a bulk solution along with OH ion arised from Donnan hydrolysis and act as counter ion leading to the formation of thick electric double layer. With respect to pH condition, weak aggregation is formed in the suspensions adjusted at pH 9-5 and strong flocculation occurs in those with pH value below 4, while good dispersion is attained at pH 10-12. **Hydrogen(H) ion** in the aqueous system is not only apt to adsorb in the double layer by displacing Na but is also able to displace Mg in octahedral lattice. Such H-TSM suspensions that prepared by dialysis and ion-exchange treatment using H-resin are unstable, since the crystal structure is collapsed by H ion in the interlayer as the time proceeds. As thinner is the solid

concentration, amount of H ion is increased per unit weight of Na-TSM, dispersion tends to be unstable by similar reasoning. On the other hand, H-TSM suspensions are changed to good dispersion by adding NaOH to a pH value over 10. Addition of sodium salts such as phosphate, sulfate and chloride also improves the dispersing state due to the action lowering H ion concentration in the double layer together with supplying Na. Sodium phosphate acts as a good dispersing agent increasing pH value by hydrolysis and removing Mg from the double layer by complex formation.

(author abst.)

CC CB11010C (544.77)

CT mica; sodium compound; magnesium compound; silicon oxoate; fluoride; aqueous solution; suspension(disperse system); ion exchange resin; interstitial atom; sodium; ion exchange; ion diffusion; sodium phosphate; electrolyte; dispersing agent; disperse system; dialysis

BT **phyllosilicate** mineral; **silicate** mineral; mineral(geology); alkali metal compound; alkaline earth metal compound; silicon compound; carbon group element compound; oxoate; oxygen compound; oxygen group element compound; halide; halogen compound; fluorine compound; solution(liquid); liquid; ion exchanger(material); functional **polymer**; macromolecule; atom; point defect; lattice defect; defect; alkali metal; metallic element; element; third row element; exchange; exchange reaction; chemical reaction; diffusion; transport phenomenon; phenomenon; phosphate(salt); phosphorus oxoate; phosphorus compound; nitrogen group element compound; matter; membrane separation; separation

L29 ANSWER 38 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1990:185072 HCAPLUS

DN 112:185072

ED Entered STN: 12 May 1990

TI Manufacture of plates coated with nitrogen oxide reduction catalysts

IN Gajewski, Wolfgang; Brueckner, Uwe; Landgraf, Norbert; Sprehe, Josef; Vogel, Doris

PA Siemens A.-G., Germany

SO Ger. Offen., 5 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM B01J035-04

ICS B01J023-30

ICA B01J023-22; B01J021-04; B01J037-02; B01J037-08

CC 59-4 (Air Pollution and Industrial Hygiene)

Section cross-reference(s): 67

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3826137	A1	19900208	DE 1988-3826137	19880801
PRAI	DE 1988-3826137		19880801		
AB TiO <sub>2</sub> , V <sub>2</sub> O <sub>5</sub> , and WO <sub>3</sub> are mounted on plate sieve supports that were flame sputtered with Al by a P, C, ZrO <sub>2</sub> , ZnO, and/or NiO adhesive system. The catalytic materials may also contain a fibrous alumina or aluminum <b>silicate</b> (4 mm length) binder. The wet-milled catalytic materials containing .apprx.20-25 weight% water are coated onto the support and calcined at					
450-650°. A suitable binder system contains C 2, ZrO <sub>2</sub> 10, monoethanol or tylose or <b>polyethylene glycol</b> solution 10-15, ammonium <b>hydrogen</b> phosphate 8, Zn(NO <sub>3</sub> ) <sub>2</sub> .4H <sub>2</sub> O or Ni(NO <sub>3</sub> ) <sub>2</sub> .4H <sub>2</sub> O or Al(NO <sub>3</sub> ) <sub>3</sub> .9H <sub>2</sub> O 4, and water 20-25 weight %.					

ST nitrogen oxide redn catalyst plate  
 IT Waste gases  
     (nitrogen oxides removal from, plate reduction catalysts for, manufacture  
 of)  
 IT Reduction catalysts  
     (plate, manufacture of, for removal of nitrogen oxides from gases)  
 IT 1313-99-1, Nickel oxide, uses and miscellaneous 1314-13-2, Zinc oxide, uses and miscellaneous 1314-23-4, Zirconium oxide, uses and miscellaneous 7440-44-0, Carbon, uses and miscellaneous 7723-14-0, Phosphorus, uses and miscellaneous  
 RL: USES (Uses)  
     (binder containing, in manufacture of nitrogen oxide plate reduction catalysts)  
 IT 7783-28-0, Ammonium **hydrogen** phosphate 7784-27-2, Aluminum nitrate nonahydrate 13138-45-9 19154-63-3, Zinc nitrate tetrahydrate **25322-68-3** 107-21-1, 1,2-Ethanediol, uses and miscellaneous  
 RL: OCCU (Occurrence)  
     (binder, for manufacture of nitrogen oxide plate reduction catalysts)  
 IT 9004-34-6D, Tyllose, ethers  
 RL: OCCU (Occurrence)  
     (binders, for manufacture of nitrogen oxide plate reduction catalysts)  
 IT 1335-30-4, Aluminum **silicate** 1344-28-1, Aluminum oxide, uses and miscellaneous  
 RL: OCCU (Occurrence)  
     (fibers, binder, in manufacture of plate reduction catalysts, for nitrogen oxides removal from waste gases)  
 IT 1314-35-8, Tungsten trioxide, uses and miscellaneous 1314-62-1, Vanadium pentoxide, uses and miscellaneous 13463-67-7, Titanium dioxide, uses and miscellaneous  
 RL: CAT (Catalyst use); USES (Uses)  
     (nitrogen oxide plate reduction catalysts containing, manufacture of)  
 IT 11104-93-1, Nitrogen oxide, uses and miscellaneous  
 RL: REM (Removal or disposal); PROC (Process)  
     (removal of, from waste gases, plate reduction catalysts for, manufacture  
 of)  
 IT 7429-90-5, Aluminum, uses and miscellaneous  
 RL: USES (Uses)  
     (support, for catalytic materials in manufacture of nitrogen oxide plate reduction catalysts)

L29 ANSWER 39 OF 54 JICST-EPlus COPYRIGHT 2004 JST on STN  
 AN 910075158 JICST-EPlus  
 TI Dissolution of sparingly soluble inorganic compound to aqueous suspension containing ion exchange resin. (Part 6). Portland cement.  
 AU NISHINO TADASHI  
 CS Musashi Inst. of Technology  
 SO Nippon Seramikkusu Kyokai Gakujutsu Ronbunshi (Journal of the Ceramic Society of Japan), (1990) vol. 98, no. 11, pp. 1267-1272. Journal Code: F0382A (Fig. 5, Ref. 19)  
 CODEN: JCSJEW; ISSN: 0914-5400  
 CY Japan  
 DT Journal; Article  
 LA Japanese  
 STA New  
 AB Sparingly soluble inorganic salts such as BaSO<sub>4</sub> and CaC<sub>2</sub>O<sub>4</sub>·2H<sub>2</sub>O are dissolved by soaking with an aqueous suspension containing a strongly acidic **ion** exchange resin, **hydrogen** form (H-R). The dissolution proceeds by the cation exchange reaction and can be traced by

monitoring pH, specific conductivity (k, mS/cm) and ion(s) concentration(s) in the eluent. For the sake of simple operation and for avoiding contamination by foreign ions, the dissolution method, different from the conventional method in which mineral acid is used, may offer a promising technique to elucidate the reaction mechanism including cement hydration. The present work was undertaken to find a clue on the cement hydration chemistry and dealt with the dissolution process of portland cement powders. The dissolution was studied by batchwise addition of H-R to aqueous suspensions of cement with different degrees of hydration. Changes in pH and k during dissolution were compared for three kinds of cement, and analyzed quantitatively to discuss the dissolution based on the variations of dissolved amounts of constituent species for a rapid hardening cement(RHC). The results obtained are summarized as follows: (1) Dissolved Ca(OH)<sub>2</sub> is exchanged preferentially with H-R accompanying steep decrease in both k and Ca<sup>2+</sup>. Sulfuric acid liberated from gypsum results in a predominant increase in k at the complete dissolution. (2) Changes in pH, k, Ca<sup>2+</sup> (%) and SO<sub>4</sub><sup>2-</sup> (%) are terminated by the addition of H-R of about ten times weight as much as cement powder used, then, a considerable solubility of molybdate reactive silicic(MRS) acid is observed. (3) Complete dissolution of unhydrated cement is confirmed by 100% dissolution of MRS acid, whereas the dissolution decreases with increasing degree of hydration. (abridged author abst.)

CC YC05040F (666.94.01)  
 CT portland cement; dissolution; hydration reaction; hydrate; ion exchange; ion exchange resin; suspension(disperse system); inorganic compound; leaching; electrical conductivity; adsorption; calcium; cation; capture; reaction mechanism; calcium **silicate**; solubility(ratio); pH dependence; silicic acid; calcium hydroxide; insolubility; calcium sulfate; blast furnace slag cement; high-early-strength cement  
 BT cement; ceramics; chemical reaction; solvate; addition compound; compound(chemical); exchange; exchange reaction; ion exchanger(material); functional **polymer**; macromolecule; disperse system; separation; ratio; transport coefficient; coefficient; alkaline earth metal; metallic element; element; fourth row element; ion; mechanism; calcium compound; alkaline earth metal compound; **silicate**(salt); silicon oxoate; silicon compound; carbon group element compound; oxoate; oxygen compound; oxygen group element compound; degree; dependence; silicon oxyacid; oxyacid; hydroxide; **hydrogen** compound; property; sulfate(salt); sulfur oxoate; sulfur compound; slag cement; mixed cement

L29 ANSWER 40 OF 54 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1987:181478 HCPLUS  
 DN 106:181478  
 ED Entered STN: 29 May 1987  
 TI Ceramic composition and process for use thereof  
 IN Meschke, Debra J.; Hoy, Kenneth L.; Theiling, Louis F., Jr.  
 PA Union Carbide Corp., USA  
 SO U.S., 16 pp. Cont.-in-part of U.S. Ser. No. 641,640.  
 CODEN: USXXAM

DT Patent  
 LA English  
 IC ICM C08K003-34  
 NCL 524430000  
 CC 57-2 (Ceramics)  
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4638029	A	19870120	US 1985-747181	19850621

PRAI US 1983-468670 19830222  
 US 1984-641640 19840817

AB Ceramic compns. are prepared from, e.g., Al<sub>2</sub>O<sub>3</sub>, **clay**, a dispersant, and a polymeric binder consisting of a connected branch copolymer comprising a core segment, non-crosslinked branched polymer segments attached to the core, and linear polymer segments connected to the branched segments and bearing terminal groups capable of H bonding. The polymer may have a relatively high mol. weight, giving good green strength to the ceramic greenware, while maintaining relatively low slurry viscosity. A binder was prepared by treating Carbowax **PEG** 3350 [linear poly(ethylene glycol)] with glycidol and then with ethylene oxide to give a polymer (I) of average mol. weight .apprx.30700 with 8 linear polymer segments, each comprising an ethylene oxide homopolymer of average mol. weight .apprx.3250. An Al<sub>2</sub>O<sub>3</sub> slurry containing I as binder, with viscosity 5933, was granulated and molded into green bars with modulus of rupture 303 psi, vs. viscosity 6760-11200 and modulus of rupture 132-253 psi for samples prepared with various poly(ethylene glycol) binders.

ST binder ceramic molding green strength; alumina molding green strength

IT Ceramic materials and wares

(binders for, polymers for, with **hydrogen** bonding capacity,  
 for increased green strength)

IT Ethers, compounds

Polyamides, compounds

Polyamines

Polyesters, compounds

Polyethers, compounds

Polyoxalkylenes, compounds

Siloxanes and Silicones, compounds

Urethane polymers, compounds

RL: USES (Uses)

(derivs., with **hydrogen** bonding capacity, **binders**,  
 for ceramics with improved green strength)

IT 1344-28-1, Alumina, uses and miscellaneous

RL: USES (Uses)

(binder for molding of, for improved green strength)

IT 56-81-5D, Glycerol, derivs., polymers 77-99-6D, Trimethylolpropane, derivs., polymers 115-77-5D, Pentaerythritol, derivs., polymers 126-58-9D, Dipentaerythritol, derivs., polymers 151-56-4D, Aziridine, derivs., polymers 556-52-5D, Glycidol, reaction products with poly(ethylene glycol) and ethylene oxide 930-37-0D, Methylglycidyl ether, derivs., polymers **25322-68-3D**, Poly(ethylene glycol), reaction products with glycidol and ethylene oxide **25322-68-3D**, Poly(ethylene oxide), reaction products with poly(ethylene glycol) and glycidol

RL: USES (Uses)

(binders, for ceramics with improved green strength)

L29 ANSWER 41 OF 54 JICST-EPlus COPYRIGHT 2004 JST on STN  
 AN 880102600 JICST-EPlus

TI Impregnation profile of Ni fine particles in Ni/SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> catalyst.

AU FUJIYAMA TAKESHI; OHTSUKA MASASHI; UENO AKIFUMI

CS Toyohashi Univ. of Technology

SO Hyomen Kagaku (Journal of the Surface Science Society of Japan), (1987) vol. 8, no. 5, pp. 372-379. Journal Code: F0940B (Fig. 11, Tbl. 2, Ref. 8)  
 ISSN: 0388-5321

CY Japan

DT Journal; General Review

LA Japanese

STA New  
 AB Control of a radial concentration of nickel metal particles in an alumina sphere was achieved by impregnating the sphere with a solution composed of nickel nitrate dissolved in ethylene glycol, ethyl **silicate**, and a small amount of nitric acid. The position of the nickel narrow band from the center of the sphere was well controlled merely by the impregnating time. The nickel loading in the catalyst was intentionally varied with the nickel concentration in the impregnating solution. The external surface of the catalyst prepared was covered with a thin SiO<sub>2</sub> **film** resulted from gelling of ethyl **silicate** over the alumina sphere. The micro-pores observed in the thin SiO<sub>2</sub> **films** were sharply sized around 20.ANGS.. One of the features of this technique is the formation of macro-molecules consisting of Si-O-Ni-O-Si structure during the preparation of impregnating solution. When the alumina spheres were immersed, these macro-molecules adhere to the external surface of the spheres, followed by the elimination and migration of Ni ions into spheres to form a radial distribution of the fine metal particles. (author abst.)  
 CC XD03010M; CB06110P (621.6.04; 544.478.05)  
 CT fine particle; nickel; nickel catalyst; alumina; supported catalyst; spherical shape; particle size distribution; impregnation; nickel compound; nitrate(salt); electron microscopy; silica; **hydrogen sulfide**(chalcogenide); nitric acid; concentration dependence; chemisorption; isoelectric point; EPMA; aliphatic alcohol; silicon oxyacid derivative; inorganic acid ester; sulfur heterocyclic compound  
 BT particle; fourth row element; element; iron group element; transition metal; metallic element; transition metal catalyst; metal catalyst; catalyst; aluminum oxide; aluminum compound; 3B group element compound; metal oxide; oxide; chalcogenide; oxygen group element compound; oxygen compound; morphology; distribution; iron group element compound; transition metal compound; nitrogen oxoate; oxoate; nitrogen compound; nitrogen group element compound; microscopy; observation and view; silicon dioxide; silicon oxide; silicon compound; carbon group element compound; **hydrogen** compound; sulfide(chalcogenide); sulfur compound; nitrogen oxyacid; oxyacid; dependence; adsorption; **hydrogen ion** concentration; acidity; degree; concentration(ratio); X-ray spectrometry; X-ray analysis; instrumental analysis; analysis(separation); analysis; spectrochemical analysis; alcohol; **hydroxy** compound; ester; heterocyclic compound

L29 ANSWER 42 OF 54 JICST-EPlus COPYRIGHT 2004 JST on STN  
 AN 870116811 JICST-EPlus  
 TI Effects of glass ionomer cement on the pH of saliva and phenol-indole production by salivary microorganisms.  
 AU YASUDA ATSUSHI  
 CS Nihonshidai Shi  
 SO Shigaku (Odontology), (1986) vol. 74, no. 4, pp. 858-873. Journal Code: G0580A (Fig. 15, Tbl. 8, Ref. 31)  
 CODEN: SHIGAZ; ISSN: 0029-8484  
 CY Japan  
 DT Journal; Article  
 LA Japanese  
 STA New  
 CC GT06000B (616.314-7)  
 CT dental cement; composite resin; saliva; putrefaction; **hydrogen ion** concentration; pH dependence; metal crown; polycarbonate; aluminosilicate glass; glass ionomer cement; sealant; dental material; sealant(dental); phenolic compound; nitrogen heterocyclic compound; polynuclear aromatic compound

BT medical material; material; secretion(secrete); deterioration(food); deterioration(worse); variation; alteration; acidity; degree; concentration(ratio); dependence; partial denture; denture; artificial biosystem; equipment; prosthetic appliance; object; **polymer**; thermoplastic; **plastic**; **silicate** glass; glass; ceramics; filling material; **hydroxy** compound; aromatic compound; heterocyclic compound

L29 ANSWER 43 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1987:488342 HCAPLUS  
 DN 107:88342  
 ED Entered STN: 05 Sep 1987  
 TI Chemical, electrochemical, and chromatographic applications of modified smectite **clays**  
 AU Kotkar, Dilip; Joshi, Vishvas; Ghosh, Pushpito K.  
 CS Alchemie Res. Cent., Thane, 400601, India  
 SO Proceedings of the Indian National Science Academy, Part A: Physical Sciences (1986), 52(4), 736-43  
 CODEN: PIPSB; ISSN: 0370-0046  
 DT Journal  
 LA English  
 CC 78-4 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 24, 66, 67, 72  
 AB The unusual intercalation properties of polypyridyl Ru(II) complexes in smectite **clays** is discussed and the resolution of racemic mixts. of several Ru(II) complexes on chirally-modified **clay** columns is reported. The efficient conversion of 1,4-butanediol, 1,5-pentanediol and dihydroxyethyl ether to THF, tetrahydropyran and 1,4-dioxane, resp., using Al(III)-exchanged **montmorillonite** as solid Bronsted acid catalyst, is also reported. Finally, **clay**-modified electrodes containing fine dispersions of metal and metal oxide particles are shown to be effective catalysts for the electrooxidn. of water to O and the electroredn. of protons to H.  
 ST **clay** chirally modified complex resoln; resoln ruthenium polypyridyl modified **clay**; bipyridine deriv ruthenium resoln **clay**; cyclocondensation diol catalysis aluminum **montmorillonite**; water electrooxidn catalysis modified **clay**; **clay**; proton electroredn catalysis modified **clay**; catalyst electroredox cyclocondensation modified **clay**  
 IT Cyclocondensation reaction catalysts  
 (aluminum-exchange **montmorillonite** as, for glycols)  
 IT Glycols, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (cyclocondensation reaction of, aluminum-exchanged **montmorillonite** catalysis of)  
 IT Resolution  
 (of ruthenium bipyridine complexes with vinylpyridine or dicarboxybipyridine on chirally-modified **montmorillonite**)  
 IT Cation exchange  
 (of ruthenium phenanthroline complex with **montmorillonite**, enantiomer interaction in)  
 IT Reduction catalysts  
 (electrochem., **clay**-platinum in PVA on tin dioxide as, for **hydrogen ion**, Pr viologen sulfonate mediation of)  
 IT Oxidation catalysts  
 (electrochem., **clay**-ruthenium dioxide in PVA on tin dioxide as, for water, ruthenium bipyridine dicarboxybipyridine complex mediation of)

IT 7440-06-4, Platinum, properties  
 RL: PRP (Properties)  
 (clay exchanged with, tin dioxide electrode modified by, electroredn. of **hydrogen ion** mediated by propylviologen sulfonate at)

IT 77951-49-6  
 RL: PRP (Properties)  
 (cyclic voltammetry of, at tin dioxide, clay-tin dioxide and clay-platinum/PBA-tin dioxide electrodes, catalytic **hydrogen ion** reduction in relation to)

IT 110-63-4, 1,4-Butanediol, reactions 111-29-5, 1,5-Pentanediol  
 111-46-6, Bis(2-**hydroxyethyl**) ether, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (cyclodehydration of, in presence of aluminum-exchange **montmorillonite**)

IT 18282-10-5, Tin dioxide  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (electrodes, clay-platinum and clay-ruthenium dioxide-modified, **hydrogen ion** electroredn. and water electrooxidn. at)

IT 7732-18-5, Water, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (electrooxidn. of, at clay-ruthenium dioxide-modified tin dioxide electrode mediated by ruthenium bipyridine dicarboxybipyridine complex)

IT 12408-02-5, **Hydrogen ion**, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (electroredn. of, at clay-platinum-modified tin dioxide electrode mediated by propylviologen sulfonate)

IT 1318-93-0, **Montmorillonite**, properties  
 RL: PRP (Properties)  
 (metal- and chiral ruthenium complex-exchanged, chemical, electrochem., and chromatog. applications of)

IT 22873-66-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (**montmorillonite** exchange with racemic, UV spectrum of, enantiomer interactions in relation to)

IT 19368-51-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (**montmorillonite** exchanged with, UV spectrum of)

IT 24162-09-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (**montmorillonite** exchanged with, chromatog. separation of ruthenium bipyridine dicarboxybipyridine complex using)

IT 7429-90-5, Aluminum, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (**montmorillonite** exchanged with, cyclodehydration of glycols in presence of)

IT 7440-43-9, Cadmium, properties  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (**montmorillonite** exchanged with, sulfide precipitation of, preparation of cadmium sulfide dispersed in **montmorillonite** film by)

IT 18496-25-8, Sulfide  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (precipitation by, of cadmium ions in **montmorillonite**, cadmium sulfide dispersion in **montmorillonite** film by)

IT 109-99-9P, Tetrahydrofuran, preparation 142-68-7P, Tetrahydropyran

IT RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, by aluminum-**montmorillonite**-catalyzed  
 cyclodehydration of diol)

IT 123-91-1P, 1,4-Dioxane, preparation  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, by aluminum-**montmorillonite**-catalyzed  
 cyclodehydration of diol ether)

IT 1306-23-6P, Cadmium sulfide, preparation  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, dispersed in **montmorillonite** film)

IT 82769-08-2  
 RL: PROC (Process)  
 (resolution of, on chirally-modified **montmorillonite**)

IT 62207-96-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (resolution on chiral tris(phenathroline)ruthenium-exchange **clay**  
 and mediation by, of electrooxidn. of water at **clay**-ruthenium  
 dioxide-modified tin dioxide electrode)

IT 9002-89-5, PVA  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (tin dioxide electrodes coated with **clay**-platinum and  
**clay**-ruthenium dioxide in, **hydrogen ion**  
 electroredn. and water electrooxidn. catalyzed by)

L29 ANSWER 44 OF 54 COMPENDEX COPYRIGHT 2004 EEI on STN  
 AN 1987(7):105530 COMPENDEX DN \*8717552; 870766443  
 TI DIRECT OBSERVATION OF SURFACE CHARGE OF **CLAY** MINERALS  
 FLOCCULATED BY CATIONIC POLYELECTROLYTE.  
 AU Serita, Hajime; Kohyama, Norihiko; Murai, Koichi  
 SO Kobunshi Ronbunshu v 43 n 9 1986 p 591-595  
 CODEN: KBRBA3  
 PY 1986  
 DT Journal  
 TC Experimental  
 LA Japanese  
 AB A simple method was studied to determine the electric charge on each  
 surface of **clay** minerals using a transmission electron  
 microscope (TEM) in conjunction with some charged sols, such as negative  
 gold sol and positive silver sol. The surface charge was identified by the  
 observation of whether or not the surface adsorbed the charged sol  
 exclusively under the TEM. The results revealed that surface charge of  
**clay** minerals mainly originated from oxygen **ions** or, the  
**hydrogen ions** of **hydroxyl** groups exposed on  
 the outermost surface. The observation of adsorption of negative sol  
 showed that the surface of **clay** particles on addition of 10 ppm  
 of ionene **POLYMER**, was almost covered with that **POLYMER**  
**.Clay** particles flocculated by 10 ppm of quaternary ammonium  
 salts of poly-2-vinyl-pyridine contained partly negative gold sol. That  
 flocculation mechanism via mosaic type attraction is supported by the fact  
 that partial adsorption sites of negative gold sol in **kaoline**  
 particles are present. (Edited author abstract) 7 refs. In Japanese.  
 CC 482 Mineralogy & Petrology; 483 Soil Mechanics & Foundations; 701  
 Electricity & Magnetism; 815 Plastics & Polymeric Materials; 741 Optics &  
 Optical Devices; 802 Chemical Apparatus & Plants  
 CT \***CLAY** MINERALS:Surfaces; ELECTRIC DISCHARGES:Surface Phenomena;  
 POLYELECTROLYTES; MICROSCOPIC EXAMINATION:Transmission Electron  
 Microscopy; CHEMICAL OPERATIONS:Flocculation  
 ST SOLS; IONENE **POLYMER**; POLY-2-VINYL PYRIDINE; QUATERNARY AMMONIUM

## SALTS; KAOLIN

L29 ANSWER 45 OF 54 JICST-EPlus COPYRIGHT 2004 JST on STN  
 AN 860226319 JICST-EPlus  
 TI Precipitation of silicic acid from geothermal water by addition of cetyltrimethylammonium bromide.  
 AU KITSUKI HARUMI  
 YOKOYAMA TAKUSHI; YAMANAKA CHIHO; NISHU KEISUKE; TARUTANI TOSHIKAZU  
 SHIMADA KAN'ICHI  
 SHIMIZU SHIN  
 CS Kyushukyoritsudaiko  
 Kyushu Univ., Faculty of Science  
 Nishinihongijutsukaihatsu  
 Kyushu Electric Power Co., Inc., Res. Dept.  
 SO Nippon Chinetsu Gakkaishi (Journal of the Geothermal Research Society of Japan), (1986) vol. 8, no. 1, pp. 1-14. Journal Code: F0489B (Fig. 10, Ref. 14)  
 ISSN: 0388-6735  
 CY Japan  
 DT Journal; Article  
 LA Japanese  
 STA New  
 AB The fundamental experiment on **polymerization**, precipitation and removal method of silicic acid by addition of cationic surfactant, considered to be effective means for solving silica scale generation problem in geothermal power plant, was performed. The influence of titled bromide upon **polymerization** of silicic acid and precipitation of silica was studied using sodium **silicate** solution and geothermal water. The effects of pH value and quantity of poly-silicic acid were clarified.  
 CC NB03110F (621.311.25:550.361)  
 CT geothermal power generation; power plant; scale(corrosion); removal; precipitation(sedimentation); silicic acid; hot water; silica; **polymerization**; sodium **silicate**; **hydrogen** ion concentration; cationic surfactant; bromide; ammonium compound; alcohol  
 BT power generation; electric power energy operation; electric power facility; product material; silicon oxyacid; silicon compound; carbon group element compound; oxyacid; oxygen compound; oxygen group element compound; water; silicon dioxide; silicon oxide; oxide; chalcogenide; chemical reaction; **silicate**(salt); silicon oxoate; oxoate; sodium compound; alkali metal compound; acidity; degree; concentration(ratio); surfactant; bromine compound; halogen compound; halide; onium compound; **hydrogen** compound; nitrogen compound; nitrogen group element compound; **hydroxy** compound

L29 ANSWER 46 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 1985-264663 [43] WPIX  
 DNC C1985-114417  
 TI Reaction prod. from olefinically unsatd. cpd. - and cpd. with active **hydrogen**, as **binder** for two-component lacquer.  
 DC A28 A82 G02  
 IN BRINDOPKE, G; KLEINER, H J; SCHON, M; WALDMANN, K; WALZ, G; BRINDOEPKE, G; KLEINER, H; SCHOEN, M  
 PA (FARH) HOECHST AG  
 CYC 19  
 PI DE 3508399 A 19851017 (198543)\* 39p  
 EP 160824 A 19851113 (198546) DE

R: AT BE CH DE FR GB IT  
 AU 8540807 A 19851010 (198548)  
 JP 60226525 A 19851111 (198551)  
 ZA 8502506 A 19851007 (198605)  
 ES 8603199 A 19860401 (198621)  
 EP 160824 B 19890906 (198936) DE  
 R: AT BE CH DE FR GB IT LI NL SE  
 DE 3572829 G 19891012 (198942)  
 US 4871822 A 19891003 (198949)  
 CA 1281494 C 19910312 (199116)  
 US 5084536 A 19920128 (199207)  
 EP 160824 B2 19940803 (199430) DE 18p C08F299-02  
 R: AT BE CH DE FR GB IT LI NL SE  
 KR 9307692 B1 19930818 (199431) C08F299-02  
 JP 07039559 B2 19950501 (199522) 13p C09D165-00  
 DE 3508399 C2 19950810 (199536) 17p C09D004-00  
 ADT DE 3508399 A DE 1985-3508399 19850308; EP 160824 A EP 1985-103655  
 19850327; ZA 8502506 A ZA 1985-2506 19850403; ES 8603199 A ES 1985-541864  
 19850402; US 4871822 A US 1986-874688 19860616; US 5084536 A US  
 1989-371519 19890326; EP 160824 B2 EP 1985-103655 19850327; KR 9307692 B1  
 KR 1985-2269 19850404; JP 07039559 B2 JP 1985-69254 19850403; DE 3508399  
 C2 DE 1985-3508399 19850308  
 FDT JP 07039559 B2 Based on JP 60226525  
 PRAI DE 1984-3412658 19840404; DE 1985-3508399 19850308  
 REP US 4408018; US 4373608; 02Jnl.Ref; DE 835809; EP 161697; GB 2048913; US  
 2759913  
 IC C08F122-04; C08G083-00; C09D003-49  
 ICM C08F299-02; C09D004-00; C09D165-00  
 ICS C08F122-04; C08F236-02; C08G083-00; C09D003-49; C09D187-00  
 AB DE 3508399 A UPAB: 19930925  
 Reaction prods. from (A) cpds. with at least 2 R1R2C=CR3-X (I) gps., and  
 (B) cpds. with (a) at least 2 active H, or (b) at least 2 gps. with active  
 H of type -AH- (II), or (c) at least 1 active H and at least 1 II gp., or  
 which form the corresp. number of II gps., are claimed. Reaction prods.  
 from (A) polyacrylates with at least 2 free acrylic acid gps., prods. from  
 polyisocyanates with acrylic esters containing OH gps., or prods.  
 from epoxy resins with acrylic acid, with (B) diketene or  
 hydroxyethyl (meth)acrylate esters of acetoacetic acid are  
 excluded.  
 X=-CO-, linked either directly or through the residue of a  
 polyalcohol or an amine to a further R1R2C=CR3 gp.; R1=H or a 1-10C (1-4C)  
 hydrocarbon, e.g. alkyl, phenyl, benzyl, naphthyl; R2, R3=H, 1-10C (1-4C)  
 hydrocarbon gp., e.g. alkyl, phenyl, benzyl, naphthyl, an ester gp. with  
 the R4 residue of an up to 12C mono-alcohol, CN, NO<sub>2</sub>, CO-NHR1 or CO-R1;  
 AH=-CH-, -NH- or -SH.  
 USE/ADVANTAGE - Use is as binder in 2 component coating compsns.,  
 especially for vehicles, and partic. for vehicle repair. Metal substrates are  
 claimed. Coatings harden fast at room or raised temperature, without liberating  
 isocyanate, to give films which resist xylene and  
 super-gasoline. The catalysts used do not shorten pot life, or cause  
 yellowing of the film. The amount of catalyst is small. Reaction  
 may be continuous, e.g. in an automatic lacquering plant.  
 0/0  
 FS CPI  
 FA AB  
 MC CPI: A12-B01; A12-B04; A12-T; G02-A02B; G02-A05E

AN 1984-084261 [14] WPIX  
 DNN N1984-062865 DNC C1984-035762  
 TI Electrode for detecting **hydrogen ion** concentrate - comprises  
 electroconductive material coated with **polymer** and  
**silicate** glass.  
 DC A89 J04  
 PA (TERU) TERUMO CORP  
 CYC 1  
 PI JP 59032858 A 19840222 (198414)\* 9p  
 JP 02037986 B 19900828 (199038)  
 ADT JP 59032858 A JP 1982-143683 19820819  
 PRAI JP 1982-143683 19820819  
 IC G01N027-30  
 AB JP 59032858 A UPAB: 19930925  
 Electrode element used for detecting **hydrogen ion**  
 concentration in solution by electrode potential response, comprises (a) an  
 electrode base formed by electroconductive material (at least the surface  
 of the base material being formed by e.g. Pt), (b) a **film** of  
**polymer** derived from **hydroxy** aromatic cpd. (e.g. phenol)  
 or nitrogen-containing aromatic cpd. (e.g. 1,2-diaminobenzene), which is  
 coated directly on the surface of the electrode by e.g. electrolytic  
 oxidative **polymerisation** and (c) **silicate** glass  
**film** (e.g. SiO<sub>2</sub> glass, Na<sub>2</sub>O-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> glass, etc.) coated on the  
 surface of the **polymer film** by vacuum plating, as the  
**film** preventing permeation of hindering ions from solution  
 The determination of **hydrogen ion** concentration can be  
 carried out even in system containing coexisting ion, especially halogen ions,  
 the  
 response speed is higher than PPO **film**/Pt base plate electrode,  
 and the response stability is high (within 2.0 mV.-0.2 mV).  
 0/5  
 FS CPI  
 FA AB  
 MC CPI: A11-B05C; A11-C04B; A12-E; A12-L04; J04-B01  
  
 L29 ANSWER 48 OF 54 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 1981-69854D [39] WPIX  
 TI Zeolite synthesis by hydrothermal reaction - of alumina and silica sources  
 alkali(ne earth) metals in presence of organic alcohol.  
 DC E33 J04  
 IN NOTARI, B; PEREGO, G; TARAMASCO, M  
 PA (ANIS) ANIC SPA; (SNAM) SNAMPROGETTI SPA  
 CYC 21  
 PI BE 887897 A 19810911 (198139)\* 12p  
 GB 2071632 A 19810923 (198139)  
 BR 8101472 A 19810915 (198140)  
 FR 2478063 A 19810918 (198143)  
 NL 8101216 A 19811001 (198144)  
 NO 8100823 A 19811005 (198144)  
 SE 8101473 A 19811012 (198144)  
 DK 8100868 A 19811026 (198147)  
 JP 56134517 A 19811021 (198148)  
 PT 72656 A 19811126 (198152)  
 DE 3109055 A 19820218 (198208)  
 ZA 8101244 A 19820222 (198221)  
 DD 156801 A 19820922 (198302)  
 CS 8101707 A 19830624 (198347)  
 GB 2071632 B 19831221 (198351)

US 4431621 A 19840214 (198409)  
 HU 29401 T 19840130 (198411)  
 RO 82107 A 19830930 (198412)  
 CA 1162523 A 19840221 (198413)  
 DE 3109055 C 19840426 (198418)  
 IL 62261 A 19840930 (198445)  
 CH 646122 A 19841115 (198451)  
 IT 1140784 B 19861001 (198821)

ADT DE 3109055 A DE 1981-3109055 19810310; US 4431621 A US 1982-407055  
 19820811

PRAI IT 1980-20557 19800313

IC B01J021-00; B01J029-04; B01J047-00; C01B033-28; C01F007-02; C07F005-06;  
 C10G011-02; C10G025-03

AB BE 887897 A UPAB: 19930915

Aluminosilicates having a porous structure of the zeolite type are mfd. by a process including a hydrothermal treatment step effected on a homogeneous aqueous mixture of sources of silica and alumina and alkali(ne earth) metal ions.

Specifically, an organic substance having at least one OH group in its molecule on a substance capable of producing (poly) hydroxylated cpds. suitable for forming the pores in the zeolites, is added to the mixt. The alkali(ne earth) metal ions serve only as complementary ions, the atomic ratio of aluminium to alkali metal being 1 or more. The organic substance is especially an alcohol.

Alkyl ammonium type zeolites can be prepared free from mineral bases ie. it is no longer necessary to use nitrogenated organic substances having a basic character of in order to form the pores required. The protonic form of zeolite can be obtd. without heating.

FS CPI

FA AB

MC CPI: E10-A07; E10-E02D; E10-E02E; E10-E04H; E10-E04J; E10-E04L; E31-P02;  
 J01-D01; J01-E03; J04-E03; J04-E04

L29 ANSWER 49 OF 54 HCPLUS COPYRIGHT 2004 ACS on STN

AN 1968:30894 HCPLUS

DN 68:30894

ED Entered STN: 12 May 1984

TI Coagulating butadiene polymers in the presence of an imidazolidine-15-thione stabilizer

IN Cook, Wendell Sherwood

PA Firestone Tire and Rubber Co.

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

NCL 260045800

CC 38 (Elastomers, Including Natural Rubber)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI US 3330800 19670711 US 19640213

GI For diagram(s), see printed CA Issue.

AB The recycled latex serum from the subject coagulation is maintained at pH 2-3 to facilitate an equilibrium between dissolved thione stabilizer in the serum and stabilizer available to the precipitated coagulum. For example, an antioxidant dispersion containing 7,14-diazadispiro-[5.1.5.2]pentadecane-15-thione (I) 100, Na naphthalenesulfinate (Daxad 15) 2, **polyethylene glycol** isoocetyl phenyl ether (Trixon X-100) 0.4, bentonite

**clay** 3.0, aqueous 10% NH4 caseinate 15.0, and H2O 220.5 parts was adjusted to pH 9.5-10.5 and added to a styrene-butadiene rubber latex in amts. sufficient to provide 0.6% I in the rubber. The latex was creamed with brine and coagulated by recycled acid serum to form a coagulum. The pH of the solution leaving the coagulation tank was monitored to signal necessary addition of acid to the serum recycle tank. The latex dispersion was passed through a steam conversion tank and over a dewatering drum. The separated serum, containing .apprx.0.1% I, was recycled without further solubilization of incoming I.

ST IMIDAZOLIDINETHIONES IN; POLYBUTADIENE COAGULATING; DIENE; COAGULATING POLYBUTADIENE  
 IT Rubber, butadiene-styrene, preparation  
     (coagulation of latexes of, with recycled latex serum in presence of 7,14-diazadispiro[5.1.5.2]pentadecane-15-thione stabilizer, **hydrogen-ion** concentration control in)  
 IT 4833-50-5  
 RL: USES (Uses)  
     (butadiene-styrene rubber latex coagulation with recycled latex serum in presence of, **hydrogen-ion** concentration control in)

L29 ANSWER 50 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1957:101967 HCAPLUS  
 DN 51:101967  
 OREF 51:18414g-i  
 ED Entered STN: 22 Apr 2001  
 TI Adsorption of hydrolyzed polyacrylonitrile (HPAN) on **kaolinite**.  
     I. Effect of exchange cation and anion  
 AU Mortensen, J. L.  
 CS Ohio Agr. Expt. Sta., Columbus  
 SO Soil Science Society of America Proceedings (1957), 21, 385-8  
 CODEN: SSSAA8; ISSN: 0038-0776  
 DT Journal  
 LA Unavailable  
 CC 15 (Soils and Fertilizers)  
 AB The rate and extent of adsorption of C14-labeled HPAN on **kaolinite** was determined. Continuous mixing in the presence of univalent exchange ions gave steady-state adsorption within 4 hrs. Langmuir-type adsorption isotherms resulted. Saturation adsorption was 2.6 meq. HPAN/100 g. HCl-**kaolinite**. The effect of the exchange cation (chloride salts) in increasing the adsorption of HPAN was in the order: Th > Ca > Ba > H > NH4 > K > Na. Anions of Na salts increased adsorption in the order: F > OH > H2PO4 > Cl > CH3COO > NO3 > HPAN. HPAN was apparently adsorbed as a monolayer on a single set of sites which are most likely "pos. spots" on the edge of the **kaolinite** crystal or which arise from adsorbed or colloidal sesquioxide impurities.  
 IT Fluorides  
     (acrylonitrile **polymer** adsorption by **kaolinite** in relation to)  
 IT Anions  
 Chlorides  
 Nitrates  
     (effect on acrylonitrile **polymer** adsorption by **kaolinite**)  
 IT Cations  
     (effect on acrylonitrile **polymer** hydrolyzate adsorption by **kaolinite**)  
 IT Phosphates  
     (in acrylonitrile **polymer** adsorption by **kaolinite**)

IT Adsorption  
 (of acrylonitrile **polymers** by **kaolinite**, effect of anions and cations on)

IT HPAN  
 (adsorption by **kaolinite**)

IT Acetates  
 (effect on acrylonitrile **polymer** adsorption by **kaolinite**)

IT 1318-74-7, **Kaolinite**  
 (acrylonitrile **polymer** adsorption by, effect of anions and cations on)

IT 25014-41-9, Acrylonitrile **polymers**  
 (adsorption by **kaolinite**, effect of anions and cations on)

IT 14762-75-5, Carbon, isotope of mass 14  
 (as indicator, of HPAN adsorption by **kaolinite**)

IT 7440-29-1, Thorium 7440-39-3, Barium 7440-70-2, Calcium 14798-03-9,  
 Ammonium  
 (effect on acrylonitrile **polymer** adsorption by **kaolinite**)

IT 12408-02-5, **Hydrogen ion**  
 (effect on adsorption of acrylonitrile **polymer** by **kaolinite**)

IT 25014-41-9, Acrylonitrile **polymers**  
 (hydrolyzed, adsorption by **kaolinite**)

IT 7440-09-7, Potassium 7440-23-5, Sodium 14280-30-9, **Hydroxyl**  
 ion  
 (in acrylonitrile **polymer** adsorption by **kaolinite**)

IT 7440-23-5, Sodium  
 (salts, effect on acrylonitrile **polymer** adsorption by **kaolinite**)

L29 ANSWER 51 OF 54 HCPLUS COPYRIGHT 2004 ACS on STN

AN 1955:51792 HCPLUS

DN 49:51792

OREF 49:10002a-c

ED Entered STN: 22 Apr 2001

TI Effect of the nature of sorbed ions on the wedge pressure in aqueous **films** and the water-retaining ability of **clay** and **kaolin**

AU Kukolev, G. V.; Syrkin, Ya. M.

CS V. I. Lenin Polytech. Inst., Kharkov

SO Kolloidnyi Zhurnal (1955), 17, 90-8

CODEN: KOZHAG; ISSN: 0023-2912

DT Journal

LA Unavailable

CC 2 (General and Physical Chemistry)

AB Disks of wet **clay** were squeezed between filter paper at pressure P (kg. weight/sq. cm.) for 10 min. and the volume V cc. of H<sub>2</sub>O still remaining in 1 g. of sample was determined. At moderate P, equations  $V\sqrt{4P} = K_1$  and  $V\sqrt{5P} = K_2$  were valid for a **clay** and a **kaolin**, resp. The constant K<sub>1</sub> was 0.575 for natural **clay** and was 0.541 for Al saturated **clay**, 0.556 for H **clay**, 0.565 for Ca **clay**, and 0.704 for Na **clay**. Also for **kaolin**, K<sub>2</sub> increased from Al to H to Ca to Na. In the region of P between 60 and 70 (for Al **clay**), between 80 and 90 (for Na **clay**), etc. V was independent of P, presumably because contact between solid particles was attained; and the above equations were invalid at higher P. When the anions in the Na **clay** were exchanged for other anions,

V, (at a constant P) was greatest for OH- and decreased in the order OH- > CO32- > AcO- > SO42- > Cl-. Also in Colloid J. 17, 85-91(1955) (Engl. translation).

IT Carbonates  
 (effect of sorbed ions of, on water retention in **clay**)  
 IT Chlorides  
 (effect on water retention in **clay**)  
 IT Ions  
 (electrolytic, sorbed, effect on water retention by **clay** and **kaolin**)  
 IT Sulfates  
 (sorbed, water retention in **clay** in relation to ions of)  
 IT **Clays**  
 Kaolin  
 (water retention by, sorbed-ion effect on)  
 IT 7440-70-2, Calcium  
 (adsorbed, by **clays** and **kaolin**, effect on water retention)  
 IT 64-19-7, Acetic acid  
 (derivs., effect of sorbed ions of, on retention in **clay**)  
 IT 14280-30-9, **Hydroxyl** ion  
 (effect of sorbed, on water retention in **clay**)  
 IT 7440-23-5, Sodium  
 (effect on water retention in **clay** and **kaolin**)  
 IT 12408-02-5, **Hydrogen** ion  
 (electrolytic, sorbed, effect on water retention in **clay** and **kaolin**)  
 IT 7732-18-5, Water  
 (retention, in **clay** and **kaolin**, sorbed-ion effect on)  
 IT 7429-90-5, Aluminum  
 (sorbed ions of, effect on water retention in **clay** and **kaolin**)

L29 ANSWER 52 OF 54 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1954:30416 HCPLUS  
 DN 48:30416  
 OREF 48:5455f-i,5456a  
 ED Entered STN: 22 Apr 2001  
 TI Crystalline swelling of **montmorillonite**-manner of swelling of **montmorillonite**  
 AU Norrish, K.  
 SO Nature (London, United Kingdom) (1954), 173, 256-7  
 CODEN: NATUAS; ISSN: 0028-0836  
 DT Journal  
 LA Unavailable  
 CC 19 (Glass, Clay Products, Refractories, and Enamelled Metals)  
 AB cf. preceding abstract Oriented flakes of Na **montmorillonite**, approx. 0.03 mm. thick, were placed in a 0.3-mm. **plastic** tube and saturated individually with cations of H+, H3O+, Li+, Na+, K+, NH4+, Cs+, Mg++, Ca++, Ba++, Cu(NH3)4++, and Al+++, resp., by passing a strong (1-4N) salt solution through the **plastic** tube. Next a solution of the same salt at the required concentration was passed through the tube, and the ends of the tube were sealed to keep the **montmorillonite** flake immersed in the salt solution. Diffraction patterns were taken of the immersed flake by using a curved crystal monochromator. For H+ and Li+ in 4N solns., the (001) spacing is 15.4 Å, while with decreasing concns. the spacing increases, giving a series of rational lines at 19 and 22.5 Å. At 0.5N

the spacing jumps from 22.5 to 36 Å. and the diffraction pattern becomes diffuse until at 0.01N the spacing is 40 Å. In more dilute solns. the spacings follow the data given for H<sup>+</sup> and Li<sup>+</sup>. When saturated with K, NH<sub>4</sub><sup>+</sup>, and Cs<sup>+</sup> the spacings do not exceed 15 Å. even in H<sub>2</sub>O. However, by expanding the **montmorillonite** in NaCl and then replacing the Na ions by K ions by using weak KCl solns., large spacings are obtained with K **montmorillonite**. In Mg<sup>++</sup>, Ca<sup>++</sup>, Ba<sup>++</sup>, and Al<sup>+++</sup> solns. the spacing increases from 15 Å. to a maximum of 19 Å. with decreasing concns., while in Cu(NH)<sub>4</sub><sup>4+</sup>-saturated solution a spacing of 12.4 appears which is independent of electrolyte concns. For addns. of H<sub>2</sub>O between 0.37 and 1.19 g./g. **clay**, both 19- and 40-Å. spacings are present, the former decreasing in number and the latter increasing with increasing H<sub>2</sub>O content. The 40-Å. spacing gives a diffuse 2nd-order diffraction line at 20 Å., so that while the H<sub>2</sub>O content increases by 3 times, the 19-Å. line shifts very little in position but becomes diffuse. The results are interpreted to mean that the swelling of **montmorillonite** takes place in 2 rather distinct steps. Below 22 Å. the interlayer expansion is stepwise and very dependent on the exchangeable cation. After the jump to 35 Å. the expansion is continuous and independent of cation for univalent cations.

IT Ammines or Ammoniates

**Oxonium** ions

        (effect on **montmorillonite** swelling)

IT Electrolytes

    (**montmorillonite** swelling in)

IT Swelling

    (of **montmorillonite**)

IT Copper, ammino

    (effect on **montmorillonite** swelling)

IT 7429-90-5, Aluminum 7439-93-2, Lithium 7439-95-4, Magnesium  
7440-09-7, Potassium 7440-39-3, Barium 7440-46-2, Cesium 7440-70-2,  
Calcium 14798-03-9, Ammonium

    (effect on **montmorillonite** swelling)

IT 12408-02-5, **Hydrogen** ion

    (electrolytic, effect on **montmorillonite** swelling)

IT 7647-14-5, Sodium chloride

    (**montmorillonite** swelling in aqueous)

IT 1318-93-0, **Montmorillonite**

    (swelling of, by water, effect of cations on)

L29 ANSWER 53 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1952:28890 HCAPLUS

DN 46:28890

OREF 46:4883a-c

ED Entered STN: 22 Apr 2001

TI Electron-microscope study of **montmorillonite** and **hectorite** saturated with different cations

AU Mathieu-Sicaud, A.; Mering, J.; Perrin-Bonnet, I.

CS Chem. Service of the State, Paris

SO Bull. soc. franc. mineral. (1951), 74, 439-56

DT Journal

LA Unavailable

CC 2 (General and Physical Chemistry)

AB Suspensions of **montmorillonite** and **hectorite** well dispersed and saturated with H, Na, and Ca cations are mounted on Formvar films and observed with an electron microscope.

**Montmorillonite** saturated with Na is easily dispersed. The degree of dispersion is restricted when the material is converted to

**montmorillonite** H by gentle treatment with HCl, in which case a flocculation of the suspension results. A treatment with Ca(OH)<sub>2</sub> follows, and if the suspension is sufficiently dilute, the flocculation effect is prevented. Two fractions appear for all samples, the fine fraction showing particle diameter less than 0.03  $\mu$  and the coarse fraction resulting in particle diameter greater than 0.3  $\mu$ . The reversible transformation **montmorillonite** H-  
**montmorillonite** Na is easily obtained, whereas the transformation from **hectorite** Na-**hectorite** H is not reversible. Measurements of **montmorillonite** single crystals reveal the hexagons to be approx. 300 Å. in size, in agreement with x-ray data.

IT Cations  
 (beidellite and **montmorillonite** saturated with, electron microscopy of)  
 IT Microscopy (electron)  
 (of **hectorite** and **montmorillonite** saturated with cations)  
 IT Crystal forms  
 (of **montmorillonite**)  
 IT Beidellite, magnesium  
 (electron microscopy of, saturated with cations)  
 IT 7440-70-2, Calcium  
 (beidellite and **montmorillonite** saturated with, microscopy of)  
 IT 12408-02-5, **Hydrogen ion**  
 (electrolytic, **hectorite** and **montmorillonite** saturated with, electron microscopy of)  
 IT 1318-93-0, **Montmorillonite**  
 (electron microscopy of, saturated with cations)  
 IT 7440-23-5, Sodium  
 (**hectorite** and **montmorillonite** saturated with, microscopy of)

L29 ANSWER 54 OF 54 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1930:48213 HCAPLUS  
 DN 24:48213  
 OREF 24:5200d-i  
 ED Entered STN: 16 Dec 2001  
 TI **Hydrogen** and **hydroxyl** ionic layers on suspended particles and dispersed ultra-microns  
 AU Wiegner, G.; Pallmann, H.  
 SO Zeitschrift fuer Pflanzenernaehrung, Duengung, Bodenkunde (1930), 16A, 1-57  
 CODEN: ZPDBAQ; ISSN: 0372-9702  
 DT Journal  
 LA Unavailable  
 CC 2 (General and Physical Chemistry)  
 AB From exptl. observations with different types of colloids, the following conclusions were reached: "(1) H ions, which are present in coarse, or colloidally dispersed micelles definitely influence a H electrode. If the more coarsely dispersed micelles settle out, these H ions go with them. The H ion appears partially insol. By dispersion they show their effect on the electrode. (2) In larger dilution the effect is directly proportional to the number of dispersed micelles." The quinhydrone-electrode was used in the measurements. Additional expts. were carried out on the effect of neutral salts added to various colloidal systems which led to the following conclusions: (1) Particles with electroneg. micellar ions may contain H ions for the most part in the outer layer. They have an acid dispersing effect and show H-ion exchange with neutral salts (acid

**clay** and acid humus). (2) Particles with electropos. micellar ions may contain **OH** ions in the outer layer. They show the alkaline dispersing effect and an **OH**-ion exchange (colloidal  $\text{Ca}_3\text{PO}_4$ ). (3) Particles with electroneg. micellar ions, which contain large quantities of **OH** ions in the inner layer, have an alkaline dispersing effect and exchange of H ions (calcium permutites, electroneg.  $\text{Al}(\text{OH})_3$ ). (4) Particles with elcetropos. micellar ions, which have chiefly H ions in the inner layer, show an acid dispersing effect and have **OH**-ion exchange (electropos.  $\text{Al}(\text{OH})_3$ ). The dispersing or suspension effect indicates the action of H or **OH** ions depending upon their place, in the structure of the particle, i. e., whether these ions are present in the inner or outer layer of of particles. The exchange reaction with neutral salts is controlled by these factors and H-ion or **OH**. ion exchange takes place according to the presence or absence of the resp. ion in the outer layer of the particle. Expts. were carried out to test the electrometric determination of the apparent H-ion concentration as compared with that obtained by the

inversion of cane sugar. If a through dispersion of the colloid was reached, there was no difference between the values obtained by the two methods. However, if the colloid was coagulated by some means, there is a decrease in the apparent H-ion concentration obtained by the electrometric method while that for the cane sugar remains practically constant. This is explained on the basis that the cane sugar mols. are able to diffuse into the capillary of intermicellar spaces, while only the outer ion-layer of the enlarged coagulated groups of colloidal particles takes part in the electrometric measurements.

- IT **Hydrogen-ion** concentration  
(determination of, of colloids)
- IT Salts  
(effect of neutral, on colloids)
- IT Particles  
(**hydrogen** and **OH** ion layers about suspended)
- IT Ultramicrons  
(**hydrogen** and **hydroxyl** ionic layers on dispersed)
- IT Colloids  
(neutral-salt effect on)
- IT **Films**  
(of **hydrogen** and **hydroxyl** ions on suspended particles and dispersed ultramicrons)
- IT 12408-02-5, **Hydrogen ion** 14280-30-9,  
**Hydroxyl** ion  
(**films** of, on suspended particles and dispersed ultramicrons)

=>